

**CODES!**  
YAMAHA 7001-8000  
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# The National Locksmith

## MEDECO<sup>®</sup> SITELINE<sup>®</sup>

PAGE 16

ISC WEST EXPO  
Las Vegas  
March 14-16

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## On The Cover...



The marriage of mechanical and electronic security is nicely packaged in Medeco's® new SiteLine®.

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# COMMENTARY



## Advertising your business: Is it working for you?

I had an interesting conversation with my friend Mike in Florida. Mike is a user of our *Locksmith Dispatcher 2000* software. This computer program can be set up to remind you to ask the customer where they heard about you before scheduling the service call. Mike was glad to have this feature so he could better analyze which of his advertising dollars were working hardest for his company.

After using *Locksmith Dispatcher 2000* for several months, Mike used the program to do a quick and easy analysis of where his most profitable calls were coming from. He advertises in several phone books and on local cable television as well.

The answer was quite a surprise. The computer program showed that the inexpensive cable TV ads were producing the majority of profitable new business. And, in fact, Mike had been just about ready to upgrade the size of one of his major phone book ads. The original ad was already costing him almost \$2,000 a month!

The point I am making here is not that the phone book is a bad source of business for you, or that cable TV is necessarily good. The fact is, though, that unless you consistently track where your business is coming from, you'll probably just assume that it comes from your phone book ad or ads.

If you buy and use *Locksmith Dispatcher 2000*, the savings you can achieve on advertising could well pay you many times over for the cost of the software. But even if you just want to continue with a manual scheduling system, you can still make an effort to note on your copy of each job ticket where the call came from.

Then, every so often, add it all up and see if that expensive phone book ad is really producing the business, or are your calls

coming from stable, repeat accounts, or even word of mouth. Upsizing a phone book ad may not be called for unless your current ad is producing a bunch of new business for you every month.

Here's another way to look at it. How can you make 10% more money on your bottom line this year over last year... even if you do not grow your revenue by one penny? The answer is simple: just SPEND 10% less money on expenses. Now that may sound like a hard trick to accomplish, but do you even know how much money you spend on advertising?

If you don't, then start adding it all up. Look carefully at those phone bills and ask yourself if you really, truly know which of those books is producing which calls for your business. If you're not sure, then you have a little homework to do in order to figure it out, but it will be a great investment in your own profitability.

And if you want to automate the entire scheduling, dispatching and advertising analysis systems, take a look at the demo for *Locksmith Dispatcher 2000*. You can get it at:

[DiamondSoftwareSystems.com](http://DiamondSoftwareSystems.com)

*Marc Goldberg*



Have questions? Want free technical help?  
Free Locksmith Forums!

[www.TheNationalLocksmith.com](http://www.TheNationalLocksmith.com)

**Marc Goldberg**  
Publisher

March 2000 • 5



# Mango's Message



**A** few months back my wife, Rachel, and I spent an entire Saturday cleaning out the garage. It was not the way I wanted to spend a Saturday, but it desperately needed to be done. I had been living in this house for over two years and half of the garage was still stacked to the rafters with boxes from the move. Most of the material still packed away I probably didn't need, after all I had lived two years without it. As a recovering pack rat however, it was things I just couldn't depart with.

As we scavenged through the boxes to unveil the secrets inside, much of it did make its way to the trash can. I protested against many of the disposal decisions, but my tough-as-nails wife insisted that I say farewell. Siting examples as: "Are you ever going to wear these bell-bottom corduroy pants and platform shoes from when you were about 16?"

"But their back in style" I'd insist.



"That's fine," she'd say "if you can still fit into a size seven shoe and pants with a 24" waistline!"

"I can have a seamstress take them out a little" I'd retort.

"A little!" she'd hysterically quip.

In my razor sharp witty way I could have thrown a dagger of my own, however, in my infinite wisdom I decided against it. You see, I have learned the key to a long happy relationship. Never, under any circumstances, ever make a comment, remark, or gesture about your wife's weight! I don't care if she is the size of a zeppelin. If she ever asks you how she looks and you value your relationship, do like me and say, "Honey, you are lovelier than a Beluga Whale." She just loves that.

## Where's Your John Hancock?

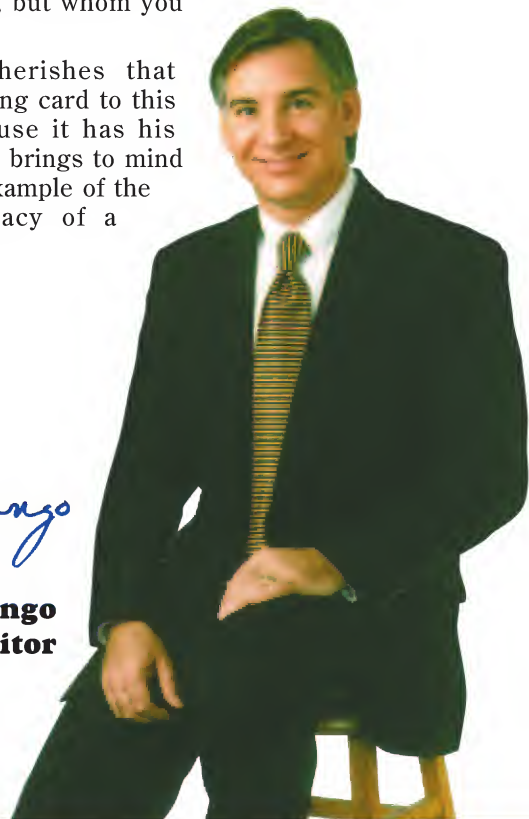


Needless to say, my Saturday Night Fever garb was soon dancing in the trash pile.

The rest of the inseparable items found their way to the basement. At least now we could park two cars in the garage. One such item found was an autographed trading card my wife received when we were living in San Antonio, Texas. We both played and enjoyed sports when we were in school and still do today. While living in San Antonio, we would frequently attend basketball games featuring the San Antonio Spurs, last years Champions, I might add. At the time the star center David Robinson (a.k.a. The Admiral,) was a newcomer to the league and making a big name for himself. Well, my lovely wife was fortunate enough to receive an autograph from the "Coyote" the team mascot and David Robinson. She knew one of the police officers that worked security at the games who made it all happen. There is truth in the saying: It's not what you know, but whom you know.

She still cherishes that basketball trading card to this day, just because it has his autograph. This brings to mind the following example of the value and legacy of a signature.

**Greg Mango  
Editor**







## *What We Build*

After more than 45-years of impeccable service and workmanship building homes, an elderly master carpenter was ready to retire. In his many years of service he was regarded as one of the best at his craft. At the completion of every project he would etch his autograph in a discrete, but accessible location, proudly identifying the creator. This practice was well known, for he would never leave his mark in the same place twice. Proud homeowners would meticulously search for the signature of this master builder and then celebrate in grand jubilation at the discovery, as if finding a golden nugget.

The carpenter told his employer/contractor of his plans to leave the home building business and live a more leisurely life with his wife, enjoying his extended family.

His employer inquired as to whether he was financially set to retire and he said he would need to manage his money wisely. He would undoubtedly miss the paycheck, but it was time for him to retire and he should get by.

The contractor was sorry to see one of the best craftsmen he ever had leave the business, but he knew he served him well and would wish him the best. However, before his departure, the contractor asked if he would build just one more house for him as a personal favor. The carpenter was hesitant to accept, but felt that after several years of steady employment he would do his contractor/employer one final favor.

As construction of the new home began, it was easy to see that before long the carpenter's heart was just not into his work as it had so meticulously been in the past. He resorted to shoddy workmanship and used inferior materials just to get the job done. Besides the inferior workmanship, this house was unlike any other that he had ever constructed. There was no signature left at the completion. It was an unfortunate way to end his career.

When the carpenter announced completion of the home, the contractor came to see. From the outside everything looked fine, but under the brick and mortar was a less than stable structure. The contractor told the carpenter what a fine job he did and then reinforced how much he will be missed. After the heartfelt exchange of appreciation the contractor handed the front-door key to the carpenter. "This is your house," he said "my gift to you for all the years you have worked so hard for me."

The carpenter was stunned! If he had only known he was building his own house, he would have done it all so



differently. Now he was destined to live the rest of his life in the house he had built none too well.

So it is with us. Too often we build our lives in a distracted way, reacting rather than acting, often willing to put out less than the best. At times we may not give the job our best effort. Then in horror we look at the situation we have created and find that we are now living in the house we have built. If only we had realized that then, we would have done it all so differently.

Think of yourself as the carpenter. Build wisely. This is the only life you will ever build. Even if you live it for only one more day, that day deserves to be lived graciously and with dignity and pride. Your life and legacy of today is the result of your attitudes and choices made in the past. Your life and legacy of tomorrow will be the result of your attitudes and the choices you make today.

Life is a do-it-yourself project. Do you place your autograph on all you do for the entire world to see? I do.

TNL



MARCH 2000

# Letters

*The National Locksmith* is interested in your view. We do reserve the right to edit for clarity and length.

## Proposition 65

I've downloaded Proposition 65 after reading your article January 18,2000 regarding brass key blanks. Knowing that brass is an alloy derived from copper I see no merit for this special interest groups claim of toxicity, whether we look at it from the AMA's standpoint or that of Holistic Healing. Since copper is, by mother nature's own implementation, a life sustaining mineral all infants are born with through the birth process it is needed.

However, on the other side the process of nickel plating of these keys to increase the strength is not. In fact the metal alloy nickel is defined in Webster's Third World Edition as a poisonous element whether ingested in the pregnancy process, or ingested via the water as adults. The reason I say pregnancy process is because we who are trained holistically know that during this process all thoughts, noises, legal and illegal drugs taken by the mother — not excluding environmental

auto/plant emissions — are sent via the umbilical cord to the developing fetus as early as the 21st day of pregnancy up to the full term. This is also why some children/adults alike have specific allergies to certain Rx drugs at birth such as penicillin.

*Willie Bowen  
Virginia*

## What Good Is It?

Can anybody name me one good thing about licensing of locksmiths in the State of Illinois? I've seen absolutely nothing change except my blood pressure and the size of my wallet.

First of all, I had quite a time getting licensed even though I've been a locksmith in Illinois for almost 25 years now. As of today I've probably spent over \$1,500 dollars on licensing and I've seen absolutely nothing positive about it. However, the tow truck drivers here in my town had no trouble at all becoming a licensed locksmith. That's another story, maybe I'll write about it next time.

I was just reading my Ace Hardware flyer and they advertise in-store lock servicing; key cutting, you name it. Do they have to pay for licensing or have any one fill out forms?

Well, I could go on and on, but I think this is enough food for thought. Any answers to my questions?

I hope other States considering licensing thinks long and hard about it.

*Pat Wall  
Illinois*

## Creative Methodology

Working here in South Texas at the largest auto auction, I often run



into creative work from others. There are some interesting techniques used by alleged automotive locksmiths. I guess you could call them shade tree locksmiths. I have seen some stuff come from the area along the border that amazed me. I once saw a GM key on a VATS system that someone had impressioned on a B44. They had extended the blade and made it work. I admire that ingenuity and persistence. I prefer to take the easier and more professional approach. It creates less stress.

The other day I saw some thing that is almost criminal. Someone had drilled a hole through the steering column on GM in line with screw retainer. They went clear through the column under the ignition switch and unscrewed the retainer to remove the switch.

When I saw the car, the hole was still there.

*Jim  
E-Mail*

**The National Locksmith**  
**1533 Burgundy Parkway**  
**Streamwood, IL 60107**  
**Attn: Editor**

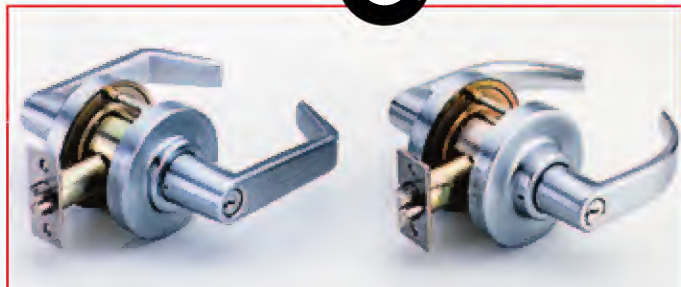


# Security Café

**DROP IN FOR  
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& EQUIPMENT**

## MARKS USA Electrified Lockset

CIRCLE NUMBER  
300



Electrified Survivor Series locksets with the "Clutch" are available for operation as either electrically locked or unlocked. When locked, the survivor's clutch disengages the outside lever allowing it to turn freely without opening the latch. MARKS Locksets with the clutch survive where rigid levers fail. A proprietary lever support spring eliminates lever droop. Marks USA locksets feature a lifetime mechanical warranty. Survivor locksets are UL listed for 3-hour fire rating and satisfy all ADA requirements.

## Von Duprin Recessed Exit Device

A new series of recessed exit devices from Von Duprin combines architecturally sound aesthetics with superior functionality. The new design is available in an array of finishes, with a broad range of features and options that includes electric latch retraction and two-point or single-point LBR latching. The new INPACT® exit device is available with smooth



pushpads, designated as series 9447, or with grooved pushpads, designated as Series 9547 devices. Both are concealed vertical rod devices. They replace the previous Series 9247 devices.

## Kenstan Single Action Gang Lock

CIRCLE NUMBER  
302

Kenstan's new gang lock works so that just one lock controls both sliding doors. In a typical display cabinet with sliding glass doors on top and two or more banks of stocking drawers below, this means



just one turn of the key opens or locks both the sliding doors at the top of the cabinet and also all the banks

## STI's Advanced Push-Button Unit

Safety Technology International is now offering an advanced, patented, ADA-compliant push-button unit that has been UL/cUL listed for use in fire alarm systems. It incorporates a

CIRCLE NUMBER  
303

unique "in-set" button that helps stop accidental activation, yet the device is easy enough to activate with a clubbed fist or an elbow. With "push to activate" and "key to reset" activation, the SS 2000 also features a tough polycarbonate faceplate with the word FIRE and flame/fire symbols molded into it and a stainless steel backplate.



of stocking drawers below. When the key is turned at the front of the cabinet a patented metal bar rises or falls (depending if you are locking or unlocking the cabinet) either blocking the sliding doors and banks of drawers or unblocking them so they can slide open. This metal bar is positioned inside the cabinet and is out of sight. The only locking mechanism that can be seen is what looks like a typical Kenstan lock.

## Sentrylok E-Latch

CIRCLE NUMBER  
304

Sentrylok's new E-latch is designed specifically for use on narrow style aluminum entryways where access control is desired. Installation is quick and easy as it fits into a standard 6-7/8" X 1" latch lock cutout on the door.



Tested to over 300,000 continuous cycles, the E-Latch is a reliable fail secure electrified locking device. Additionally, the E-Latch retains all of the features of the mechanical version including latch holdback and use with mortise cylinder and push paddle for instant egress. Available in 12VDC and 24VDC, 31/32" and 1-1/8" backsets, with field reversible handing.

## Aiphone's Drive- Thru Video System

Aiphone Corporation offers the DTX 3000, a new audio/video drive-thru system which will provide the





CIRCLE NUMBER  
305

convenience of face-to-face (two way) service for the pharmacy, banking and other retail industries utilizing drive-thru lanes. Features include a color touchscreen control panel, a remote color tilt camera enhanced to perform better in direct sunlight, five inside stations, three drive-thru stations, and audio/video messaging or advertising. A cordless telephone interface is an additional option.

### Ilco Unican LearnLok Technology

CIRCLE NUMBER  
306



By incorporating LearnLok technology into its standalone proximity lock, Ilco Unican's new SolitairePROX is an intelligent single door proximity solution that installers and end-users can program quickly and easily. No computers, software or programming modules are required. With the SolitairePROX, employees use the same HID

Corporation 26-bit Wiegand format proximity cards and key fobs used in wired systems. No external power or electric strikes are required. The new unit can be employed inside or outside with resistance to the effects of rain, dust, humidity, and salty air. The satin chrome or satin brass ANSI/BHMA Grade 1 lock incorporates a rugged clutch mechanism and provides minimum 20,000 openings battery life. The SolitairePROX reader/lock supplies an audit trail of the last 2,000 openings plus the last 25 invalid attempts.

### Trimec ES110 Low Profile Strike



CIRCLE NUMBER  
307

The ES110 low profile strike accepts a 3/4" latch, offers 3000lbs. of holding force and field reversibility from fail safe to fail secure in 45 seconds, all in a strike that is just 1-1/4" deep. The ES110 has surpassed UL1034 at the highest standards for burglary resistant electric strikes, and comes with a 3-year warranty.

### New Fire Resistant Storage File From Sentry

A new Sentry Fire-Safe® security storage file, offering

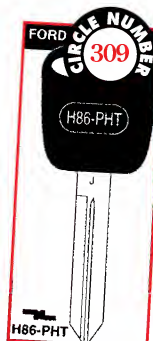


CIRCLE NUMBER  
308

more than 13 inches of filing and storage space from front to back is now available. The model 1175 has 60 percent more storage space than model 1170. The file carries the UL classification for 1/2 hour of fire endurance, as well as the UL explosion hazard test rating.

### Jet Hardware ETD-1-JR

Jet Hardware's new ETD-1-JR is an affordable alternative model of the electronic Transponder and duplicator. It is designed for duplication only and cannot be linked to a PC for storage. The ETD-1-JR



CIRCLE NUMBER  
309

will clone all programmable Transponder keys and includes both AC adapter and a 9-volt battery pack.

### Shurlok Security Lock Box



CIRCLE NUMBER  
311

The Shurlok Security Lock Box, the safest, most convenient key storage on the market is a durable, all-metal security lock box has 10,000 possible combinations that you can easily reset within seconds. One combination opens the shackle and another combination opens the compartment where you can store keys, cash, etc. With an accessory bracket, Shurlock can be mounted anywhere.

### Jensen 3-In-1 Rolling Workshop



CIRCLE NUMBER  
310

This versatile multi-purpose cart, constructed of heavy-duty polypropylene, features a built in cord reel, a lower flip-out bin, circular saw blade storage, a detachable center section with two slide-out drawers, and a detachable top toolbox with the tote tray. The cart has rolling casters and a push handle for easy transportation. **TNL**



COVER  
STORY!

by  
Richard  
Allen  
Dickey



# The medeco® SiteLine®

## **SINGLE DOOR CONTROLLER**

### ***Part 1***



*Medeco® has introduced a new electronic single door controller called SiteLine®. (See photograph 1.)*

*This controller is designed with the small to medium size business in mind. It will allow electronic access with an audit trail and it can be integrated into an existing Medeco*

*high-security lock system*

*in ways you probably have never considered.*

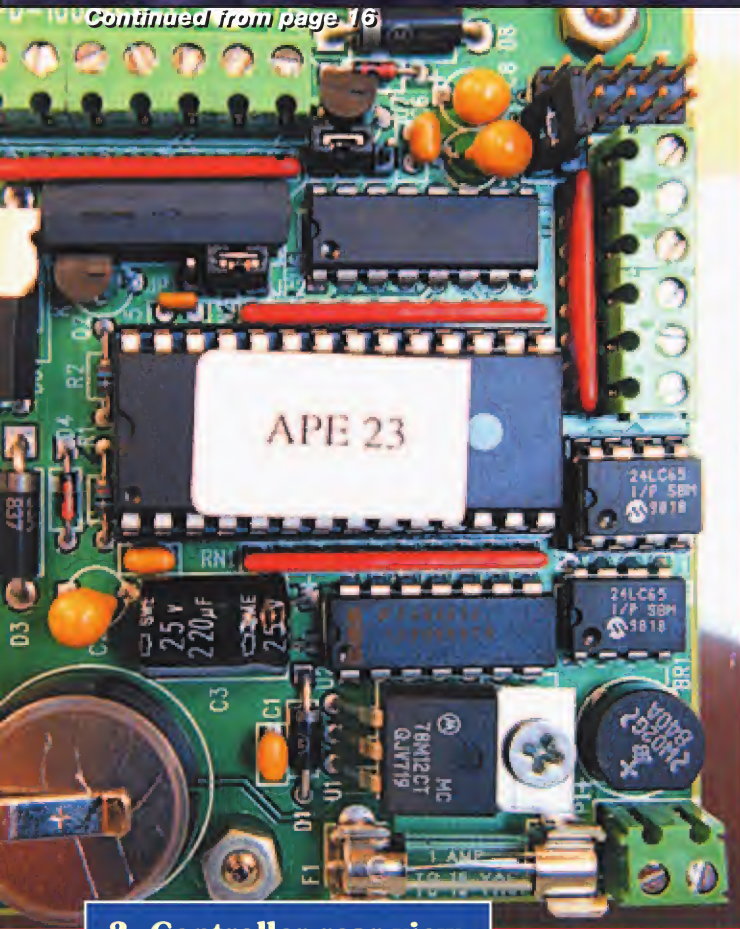
*To start things off,*

*let's go over some of the components of the SiteLine system and then on to the software that makes this thing tick.*

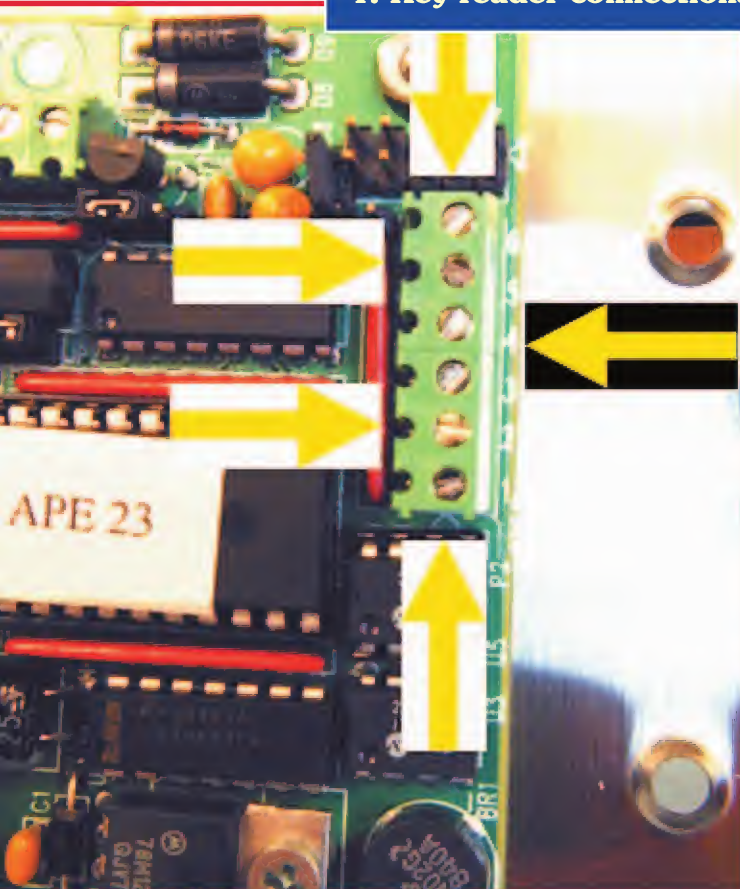
**1. The Medeco® electronic single door controller called SiteLine®.**



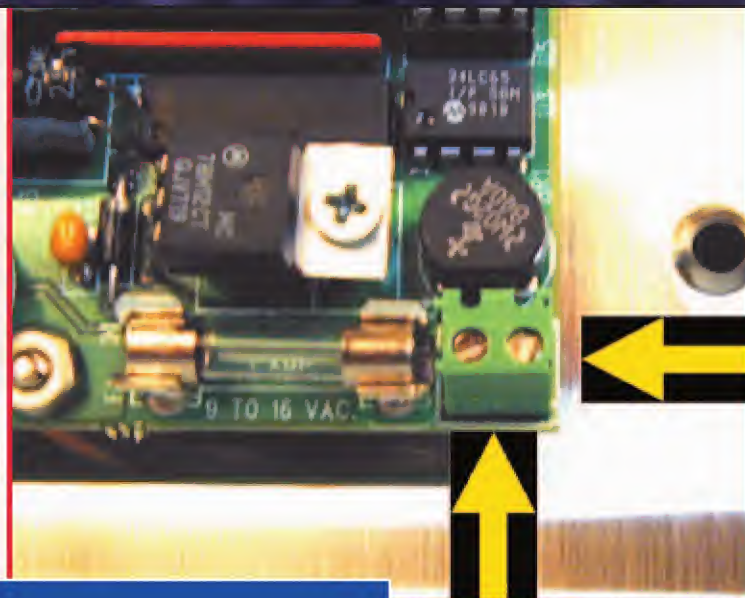
Continued from page 16



**2. Controller rear view.**



**4. Key reader connections.**



**3. AC power connection.**

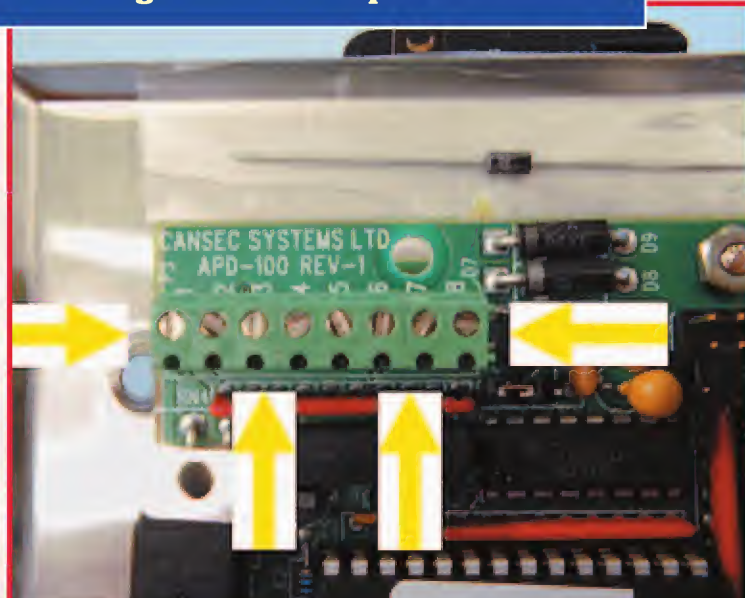
For Starters, the brains of the system is a stand alone door controller. (See photograph 2.) This controller will be located on the secure side of the door and will attach to a standard double-gang electrical box. It controls the locking device being used (electrified door strike, magnetic lock, power door operator etc.) and accepts inputs from several sources. These sources include a door contact, key reader, request to exit button and a handicapped request to enter.

The connections on the controller consist of three sets of screw down terminals. Photograph 3, shows the power connection. Photograph 4, shows the six screw-down terminals for the key reader. Photograph 5, shows the eight screw-down terminals that connect to all locking devices and input devices with the exception of the key reader. Photograph 6, shows the standard power supply used to power the controller.

The controller can keep track of 1200 users, up to five holidays and five access schedules. It can also store the last 768 transactions along with a date/time stamp as well as the name of the person who used the door.

The next part of the system is the key reader. The key reader will be located on the non-secure side of the door. I am sure you already knew this, but it had to be said. The key

**5. Locking device and input connections.**







6. 12 Volt AC power supply.

reader is designed to be wall mounted and has two little gold contacts that protrude from the middle of the reader. (See [photograph 7.](#)) Below the contacts there is a key guide that ensures perfect alignment of the key and key reader contacts. Inserting the key into the key reader allows the door controller to decide if you are allowed access. If you are not on the access list, you don't get in.

To program the system, you need a computer. That shouldn't be a problem. You would have a hard time finding a business today that does not have a computer. The SiteLine CD programming software (see [photograph 8](#)) and key programmer/reader (see [photographs 9](#)) is designed to operate on a computer that uses either Windows 95/98 or Windows NT. The software supports up to 10,000 keys (including users) and can manage up to 255 doors. 255 doors means 255 controllers. That should be powerful enough for any small to medium sized business. If you think about it, 255 doors and 10,000 keys would handle almost any large business. This is a powerful little software package.

There are three kinds of keys that the SiteLine single door controller uses. (See [photograph 10.](#)) Actually Medeco doesn't call them keys, they call them credentials, but a rose by any other name... There is the black user key, the red setup key and the blue program/audit key. When we talk



7. Key reader gold contacts.

about the red key, there will be only one for the entire system.

First let's talk about the black key. (See [photograph 11.](#)) If you look closely, you will be able to see the two metal contacts located on the front edge of the bow of the key. (See [photograph 12.](#)) These metal contacts are connected to a Dallas chip. The Dallas chip is the little round silver thing located in the bow of the key. (See [photograph 13.](#)) This chip is the on board electronics for the key (credential) that the key reader will use to verify authorization before allowing a door to open. The Dallas chip contacts and the key are held together by the plastic covering that surrounds them.

Do you remember back at the beginning of this article when I mentioned that the SiteLine system could be integrated into an existing Medeco high-security lock system in ways you probably have never considered? Well,

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**8. Software manual and CD-ROM.**



**9. Key reader/programmer with cable and serial connector.**

this is possible because Medeco has combined electronic and mechanical access control through a unique dual function key (credential).

I'm sure you noticed, but the blade of the black key has been cut. (See photograph 11.) There is nothing in the SiteLine system that requires a key to be cut, but how about the rest of your high-security system? The fact that the key can be cut, allows it to be used with your existing Medeco padlocks, mortise cylinders or any of the many other locks Medeco has to offer. (See photograph 14.)

You are probably wondering what will happen to this fancy key when you drop it in a mud puddle? Well, the Dallas chip is waterproof. That's right, waterproof, not just water resistant. Just to prove the point, I will place one of the keys in a glass of water for several hours before adding it to the system. Will it work? Well, you will see when we get into programming in part II.

The red key is the setup key. (See photograph 15.) It has a real time clock built in it that allows perfect synchronization between the computer clock and controller clock. If you don't have the red key, you are not able to program the system or look at the information stored in the computer.

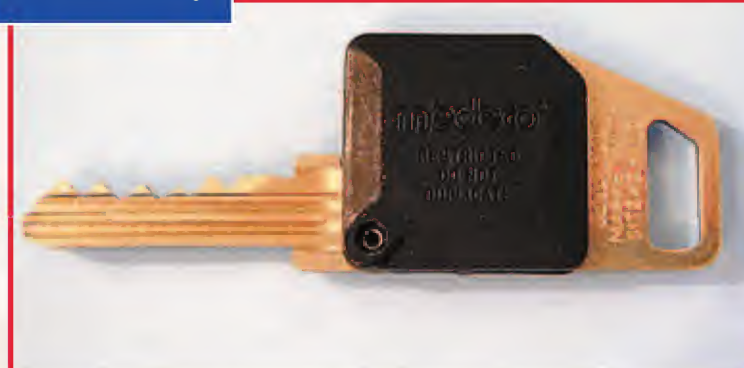
This key has a serial number printed on the side as well as the same number embedded in the chip inside the key. (See photograph 16.) The serial number of the red key must match the serial number of the CD-ROM as well. Each CD-ROM has its own serial number and a specific red key that goes with it. (See photograph 17.)

Every time the SiteLine software is started it looks to see if the red key is in the key reader/programmer that connects

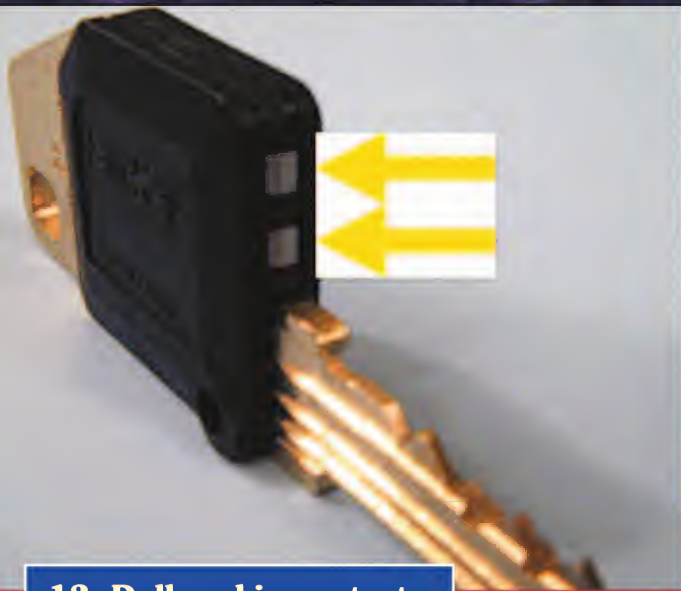
**10. Setup, programming/audit and user keys.**



**11. User key.**







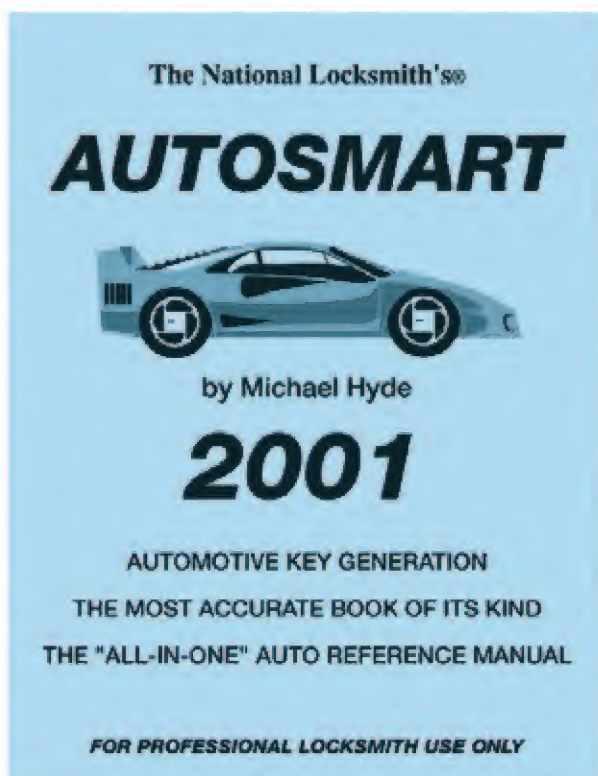
**12. Dallas chip contacts.**

to the computer. (See photograph 18.) If it is not, the software will not finish loading. If it is the wrong red key, (one that came from another system) the software will not finish loading. This ensures that all data in the computer is kept confidential. It also prevents any changes from being made to user information or access schedule information by an unauthorized person.

The third type of key is the blue programming/audit key. (See photograph 19.) This key has two uses. It transfers



**13. The actual Dallas chip you have heard so much about.**



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for every  
locksmith!



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**14. Medeco high-security padlock and Mortise cylinder using a SiteLine key.**

key. The blue key is then inserted into the key reader that is associated with the controller that needs to be updated. (*See photograph 20.*) It is that simple.

To retrieve an audit trail, the blue key is used to carry information from the controller to the computer in much the same way as the information was taken from the computer to the controller. I will get into the details of the process a little later when we talk about programming the system.

Some of the capabilities of the SiteLine system are access schedules, audit trail, unlock privileges, door held open, holiday access and handicap access.

There are five access schedules numbered 0 through 4. Access schedule 0 does not allow access. Access schedule 4 allows access 7 days a week 24 hours a day. Access schedules 1 through 3 are user defined in 1/2 hour increments.

Audit trail information is stored in non-volatile memory and will hold 768 events. When the 769th event takes place, event number 1 is flushed from memory.

information from the computer to the controller as well as transferring audit information from the controller to the computer.

Many electronic access control systems require that the computer be connected to the controller with wires. This is called a hard-wired system. A hard-wired system will allow instant updates of any or all of the door controllers, but this is very expensive. Professional installation of any kind of wire over a large area is always expensive.

With the SiteLine system, all updates are done with the blue key. Information is sent from the computer through the key reader attached to the computer and into to the blue

**15. The main setup key.**



**16. Serial number on setup key.**







**17. CD-ROM serial number.**

The information is retrieved by using the blue key. Before the controller will give up its information to the blue key, the controller ensures that the blue key belongs to that system, that it really is a blue key and that the key has been initialized by the computer.

The unlock privilege will allow a person with the proper authority to keep a door unlocked by pushing the key into the reader twice. This is nice if you need to make several trips through the door with your hands full. The door is re-



**18. Setup key in key programmer/reader.**

locked by inserting the key into the reader twice more. If the door is propped open without the use of the unlock privilege, an alarm will sound after a user defined period of time.



# InstaCode

Your total code and code machine management program.



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#IC - 2001





### 19. Blue programming/audit key.

Holiday privileges can be programmed into the controller to allow only those that require access on holidays. This is in addition to the regular access schedule.

One of the most interesting features of the SiteLine door controller is its ability to activate an automatic door opener. This is called the handicap access feature. Since the controller unlocks the door and activates the door opener, there is only one step involved to gain access to a secure area. This feature not only allows easy access for a person that has a disability, it also eliminates the problem of trying to open the door before it is unlocked.

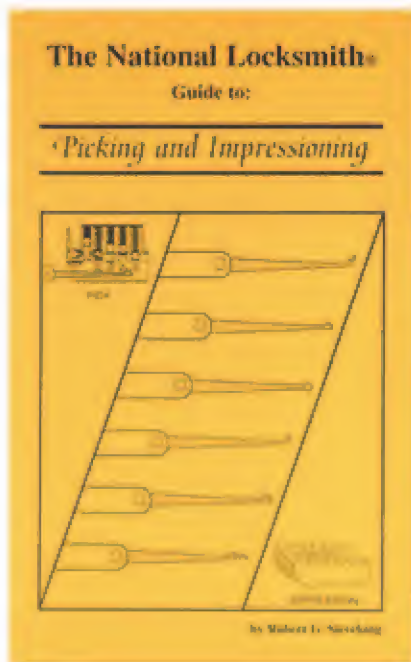
The SiteLine single door controller is without a doubt a very versatile system capable of supplying a solution for most any electronic entry problem you may have.

This is about all we will cover for this month. There is a lot to go over with the software installation and setup of the system. We will get into some very interesting stuff, so be sure to look for part II in the very near future.



### 20. Programming/audit key in key reader that connects to single door controller.

For more information about the SiteLine system, visit the Medeco web site at "[www.medeco.com](http://www.medeco.com)" or write to them at Medeco High Security Locks, 3625 Allegheny Drive, P.O. Box 3075, Salem Virginia, 24153-0330. For technical support on this product, call 1-800-675-7558. Circle #287 on the Rapid Reply Card. **TNL**



## Picking & Impressioning

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#PI



# The 1999 Pontiac Grand Am

**1**

The Pontiac Grand Am is a popular mid-size car that is bargain priced and used a lot by rental car fleets.

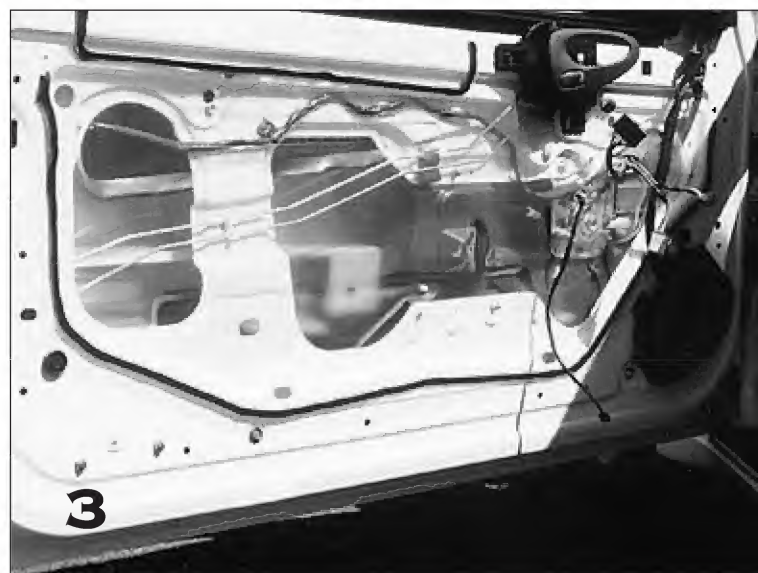
This revised model has some new twists for the locksmith. One of which is the in-dash ignition lock and the anti-theft device called MRD or PASS Lock 1.



by  
Michael Hyde

**2**

Opening this car is what I call easy money. You will need an inverted horizontal slide linkage tool, a wedge and an inspection light.



**3**

The car doors use horizontal linkage rods. The bottom rod is the one you want to move.



## Ignition Lock



The 1999 Grand Am has an in-dash ignition lock.



To remove the lock you will need to first gently unsnap the plastic trim ring that sits on the front of the lock cylinder. Use a small flat blade screwdriver and be careful.



## Guide to Motorcycles

For years locksmiths have begged for a comprehensive service manual on motorcycles and it's finally here!

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#MOT - 2

March 2000 • 27





**6**

The trim piece just snaps onto the front of the lock cylinder by way of these four little posts that stick out.



**7**

To gain access to the ignition lock retainer you must remove the plastic trim cover on the center dash unit. The plastic trim is held to the dash by metal spring steel snap fasteners. Gently unsnap it.



**8**

Once you have unsnapped the trim plate, it will be necessary to disconnect the wiring connectors.



**9**

Remove the two bolts that hold the radio in place and pull it out.



**10**

With the radio out of the way there is now plenty of room to access the ignition retainer.





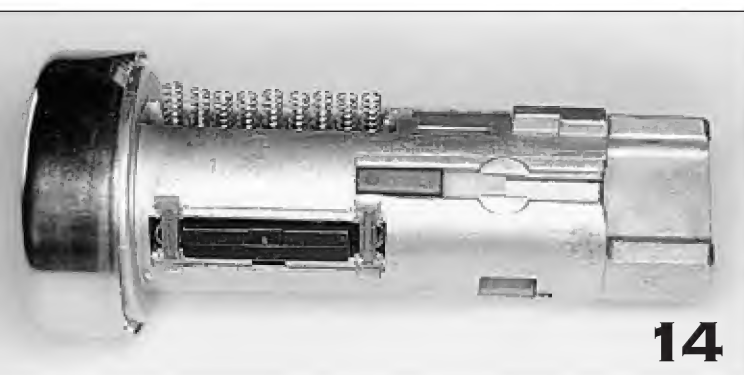
If you are looking at the ignition lock, the retainer is at the 3 o'clock position. Depress it and remove the lock.



The ignition lock removed from the car.



As mentioned earlier this lock has the anti-theft device called PASSKEY III. You can see the module mounted to the bottom of the lock cylinder. When installing this lock there is no need to worry about any wiring as the module snaps in as you push in the lock cylinder to the housing in the dash.



The ignition lock plug has a side bar and uses nine tumblers in positions 1 through 9. The MRD pellet can be also be seen.

## Door Lock



The door lock is integrated into the door handle.





16

To service the door lock you must remove the inside door panel.



18

Gently unsnap the front of the door control unit and disconnect it.



17

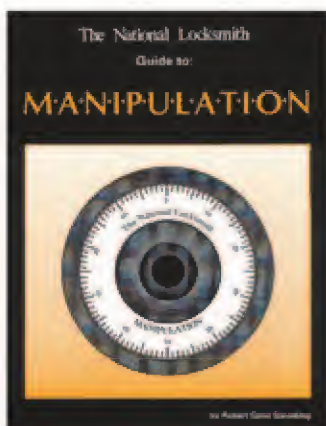
First remove the phillips head screw in the door release cavity and slide the trim off.



19

There is a hidden door panel screw that must be removed.

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#MAN - 1

## InstaCode

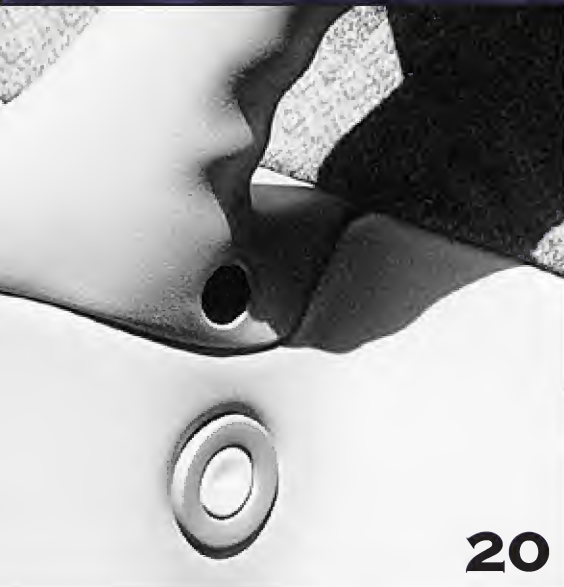


Your total code and code machine management program.

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#IC - 2001





**20**

Remove the screw that is buried in the door handle post above the trunk release button.



**21**

Down in the lower rear corner of the door is a red reflector. Gently unsnap and remove this reflector.



**22**

Behind it you will find another panel fastener. Remove the screw.



**23**

The door panel can now be removed. The panel is held in place with the standard plastic push-in fasteners.



**24**

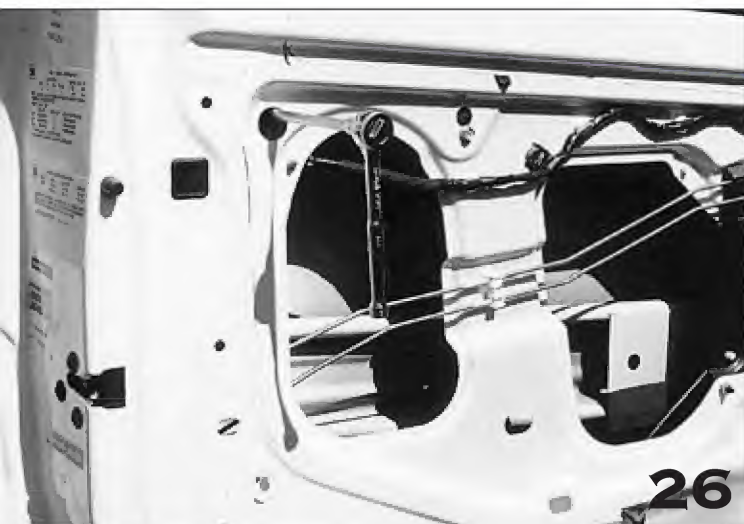
Once the panel has been removed it will make it more convenient if you remove the rear window track. Remove the single bolt and slide out the window track.



**25**

The lock cylinder is held to the outside door handle by a steel wire clip. It is a little easier to remove the handle and lock cylinder as a unit.





**26**

There is a steel curved plate that holds the handle. Remove the 10mm bolt with a ratchet and socket.



**27**

You do not need to completely remove the handle to easily remove the lock cylinder. We removed it for this article.



**28**

The door lock cylinder assembly.



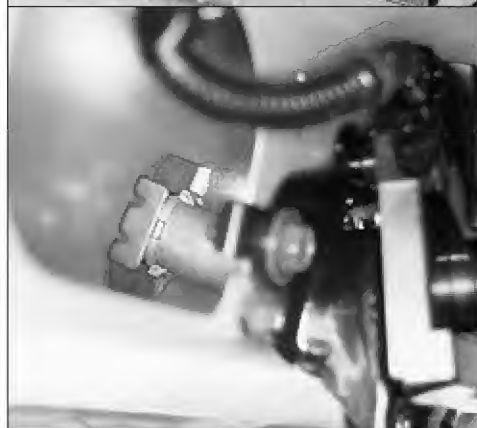
**29**

The door lock cylinder plug contains 7 tumblers in positions three through nine.

## Trunk Lock



**30**



The trunk lock is retained to the deck lid by the standard metal horseshoe clip.

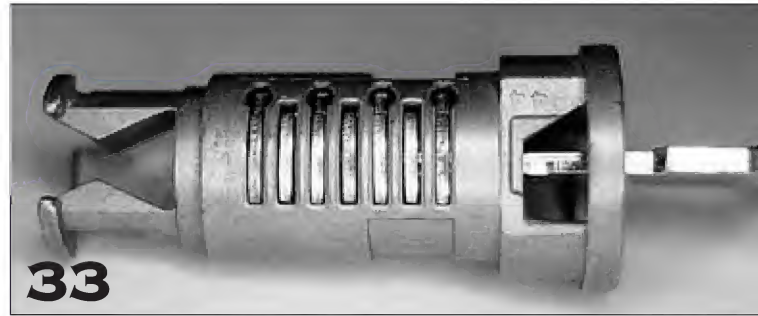


**31**

Depending on how big your hands are, it might be easier to remove the latch assembly to give you more access room.



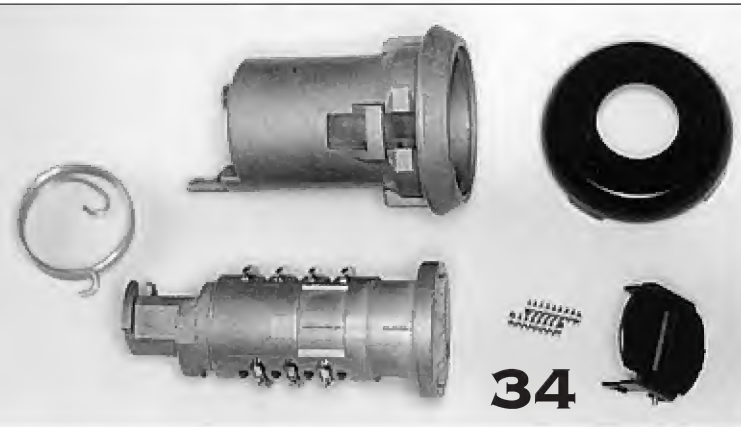
The trunk lock removed from the car.



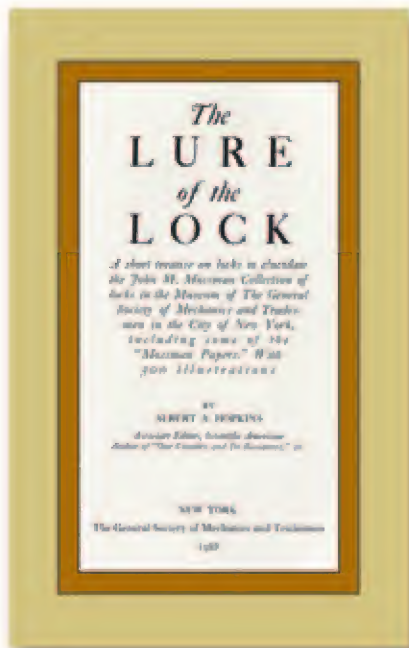
The trunk lock cylinder plug contains 7 tumblers in positions four through ten.

## Glove Box Lock

A view of the glove box lock and handle assembly.



The trunk lock disassembled.



## The Lure of the Lock

This hardcover book, compiled in 1928, features dozens and dozens of beautiful photographs on ancient through modern locks.

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#LURE





**36**

The glove box door assembly is sealed together. There are no screws to remove to get the lock out. When servicing the lock, keep in mind that you will have to replace the front plastic skin to the glove box door unit.



**37**

The glove box lock cylinder contains 4 tumblers in positions seven through ten.

**Code Series:** AA00 -

7T51

**Key Blanks**

**Curtis:** B91

**Ilco:** B91

**Ilco EZ:**

**Jet:** B91

**Strattec:** 597749

**Number of Cuts:** 10

**M.A.C.S.:** 2

**Key Gauged:** Tip

**Cut to Cut Spacings:**

.092

**Cut Depth Increments:**

.025

**Notes:**

**Spacings:** From Tip to first cut at Bow.

**1 =** 1.034

**2 =** .942

**3 =** .850

**4 =** .757

**5 =** .665

**6 =** .573

**7 =** .481

**8 =** .389

**9 =** .297

**10 =** .205

**Depths:**

**1 =** .315

**2 =** .290

**3 =** .265

**4 =** .240

**HPC 1200CM**

**Code Card:** CF215

**Cutter:** CW-1011

**Stop:** Tip

**Framon:**

**Cuts Start at:** .216

**Spacing:** .092

**Block #:** 3

**Increment:** .025

**Key Clamping Info:**

Use spacing clip, align tip of key with left side of vise. Lay clip flat on left side of vise and slide key in from the right.

**Curtis:**

**Cam:** GM-6

**Carriage:** GM-6A

**A-1 Pack-A-Punch:**

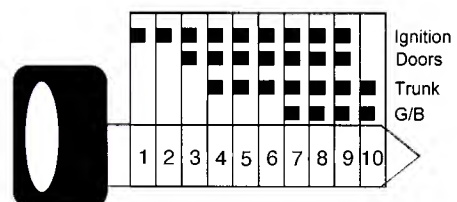
PAK-G1

## Making First Key

1. Try to obtain a key code from the customer or have the customer call GM roadside for the key code.
2. Remove the door lock cylinder and decode the wafers. This will give you positions 3 through 9. Next progress the trunk lock for position number 10. You will now be missing only 2 cuts to work the ignition in positions 1 and 2. You can progress those first two positions or use one of the commercially sold computer programs to greatly narrow down the number of keys needed.
3. Use the A-1 Security tool to remove the ignition lock.

SPACING (Bow to Tip)									
1.034	.942	.850	.757	.665	.573	.481	.389	.297	.205

DEPTHS
1 = .315
2 = .290
3 = .265
4 = .240



**TNL**





by Sal Dulcamaro

# GETTING INTO COMBINATION PADLOCKS

## PART THREE

**S**ince I started this article series, I have spent a considerable amount of time with combination padlocks. I have been studying and practicing on them well into the dozens of hours. I started against the backdrop of the generally recognized principle that the low cost of combination padlocks makes them, for the typical locksmith, impractical to deal with or service.

I find myself in the position of the lone and persistent researcher exploring avenues of possible ways to disprove that principle. Many of those roads have proven to be dead ends, while others seem to be quite promising. At times, certain techniques have amazed me at their effectiveness and “apparent” simplicity. Some have not been repeatable, and leave me with the impression that hours of intense concentration and practice had honed my senses to such a degree that I could detect minuscule sensations within the lock mechanism. When trying to repeat the procedure a week later, I could detect nothing. If you need to practice for three hours in advance to hone your skills, taking three minutes to accomplish the actual opening belies the total time needed to complete the job.

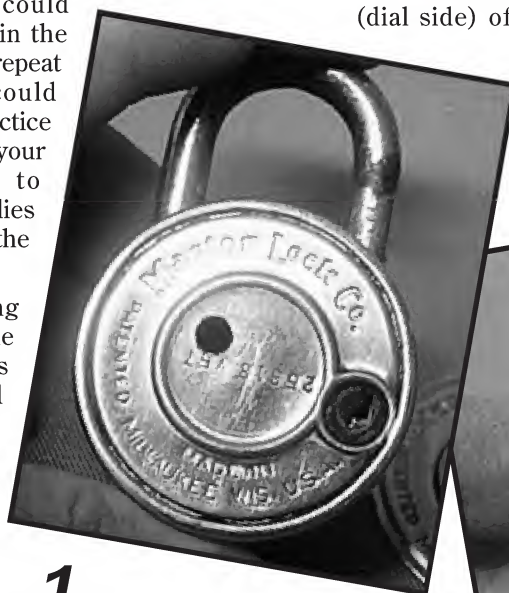
Many locksmiths have a strong aversion to damaging a lock in the process of opening it. I sometimes spend more time than I should picking a lock, because I so hate having to drill and admit defeat. In 25 years as a locksmith, I’ve had to drill fewer than five times. That doesn’t mean however, that it wouldn’t have been smarter or more profitable to have drilled on quite a few occasions. Sometimes pride

gets in the way of smart business decisions. With that in mind, some techniques and procedures that I describe will be impractical. They are best used when you have a bunch of free time to spare and happen to be in a mood for some hard core locksmithing (without having profit in mind). Many, though, will be fast, simple and profitable.

### Reading a Combination

In this part, I will be dealing with the standard (non-resettable) dial type combination padlocks. Like a mechanical safe combination lock, it is possible to read the combination by viewing the gates of the wheels under the fence. In a typical safe lock, the drive wheel is at the back of the spindle connected to the dial. To read the combination, you need to view from the side that reveals the wheel furthest from the drive wheel. That would be from the front (dial side) of the lock. That is from where you would usually drill an observation hole to line up the gates under the fence.

A typical combination padlock has the drive wheel directly tied to the dial, just

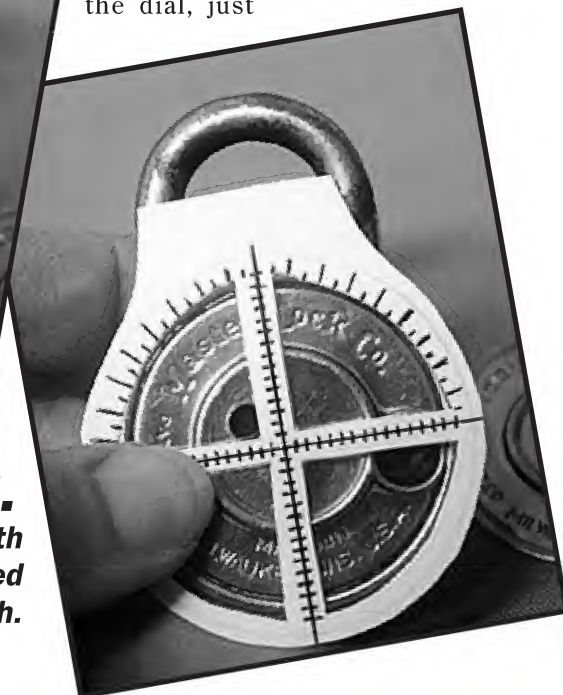


**1.**

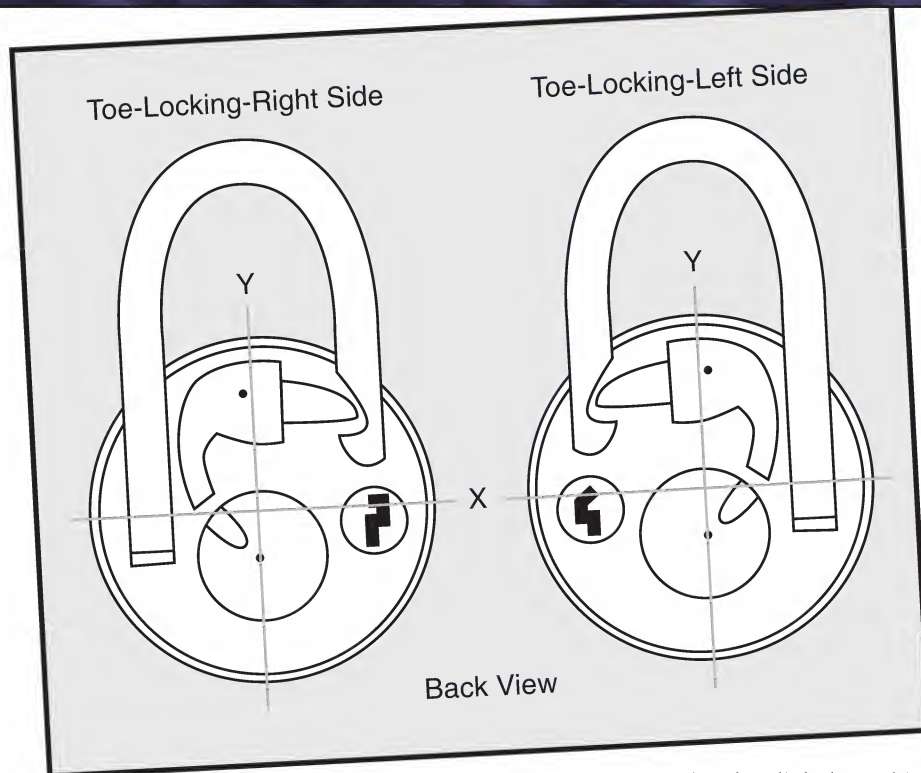
**Back of a Master 1500 series combination padlock with key bypass.**

**2.**

**I made up a scale with an X and Y-axis labeled in sixteenths of an inch.**







**A.**  
**The basic internal construction of dial type combination padlocks.**

account for the dialed combination. The catch piece locks into a notch on the toe end of the shackle. From the back view, most combination locks are either toe locking on the right side (like "A") or on the left side (like "B").

On each version, I have an X-axis running side to side and a Y-axis running up and down. The two axis separate the round shaped padlock body into four separate quadrants. In "A," the shackles toe side locks on the right. With a right toe-locking padlock, the position where the gates of the wheels should

be behind the dial in the lock case. For all practical purposes, the dial and drive wheel is virtually riveted together. The wheel furthest from the drive wheel would be toward the back of the lock case. To view the gates below the fence and read the combination, a viewing hole should be drilled in the back of the padlock.

*Illustration A*, shows the basic internal construction of dial type combination padlocks. This is a rear view (opposite the dial side) of the inside parts, if the back cover was invisible. The shackle has two ends: the "heel" end which remains attached to the lock body when the lock is opened; and the "toe" end which pulls out when the shackle is released. With few exceptions, most dial type combination padlocks are secured on the toe side of the shackle.

A spring-loaded catch is normally part of a pivoting piece (that acts as the equivalent of the fence in a safe lock) which interacts with the wheels that

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#TIPS - 2

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#SUB - 1,2,3,4,5,6



line up with the fence is usually in the upper left quadrant. The center of the wheels will correspond with the center of the dial on the front of the lock. That center will typically (though not always) be just below the center of the circle that makes up the body of the padlock.

The action of pulling up on the shackle will pivot the fence into the outside surfaces of the wheels. If all three gates are lined up under the fence, the shackle is able to pull out completely. If not, the shackle will only pull out slightly and stop when the fence hits the wheels. If there is a keyed bypass cylinder, the action of turning the key will cause a separate mechanism to push in only the spring-loaded catch, which will also allow the shackle to pull out of the lock. A keyed cylinder will usually be just below the toe of the shackle.

From the locks I took apart, I found the diameters of the wheels to be just slightly more than 3/4-inch. If you transferred the location of the center of the dial onto the back of the lock, you could mark the approximately 3/8-inch radius of the wheels and figure its outline. You would not be able to locate the fence, however, unless you removed the back plate.

*Photograph 1*, shows the back of a Master 1500 series combination padlock with key bypass. What I explained earlier about the internal construction of such padlocks would suggest that the keyed cylinder on the right indicates the likelihood of the shackle being toe locking on the right side. That being the case, it would further suggest that the fence would be located in the upper left quadrant. A viewing hole for the gates and fence drilled in the back of the lock case can be found in that area.

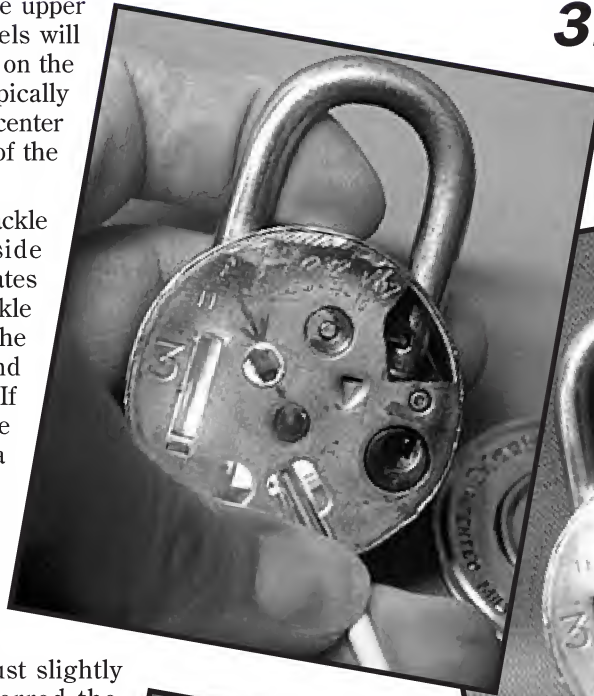
I made up a scale with an X and Y-axis labeled in sixteenths of an inch for horizontal and vertical measurements, plus arcs identified in 5° increments. I have the scale placed over the back of the Master combination padlock in *photograph 2*. In the top left quadrant, the hole seems to be located about 3/16-inch above and 3/16-inch to the left of center.

*Photograph 3*, shows a different 1500 series padlock with the outer back plate removed. A hole was drilled to reveal the fence and gates. The wheel to the back of the lock (and its gate) can be seen through that hole.

To discover the combination, you would turn the dial until the turning motion was transferred to the back wheel. You'd continue dialing until the gate showed up in the viewing hole, then you could look at the dial and see what number was set. Next you would change your direction of rotation and dial until you could see (through the gate in the set wheel) the next wheel moving in the opposite direction to the previous one. Rotation would continue until the gate in that wheel also lined up with the fence.

Turn back to look at the dial to see the number indicated.

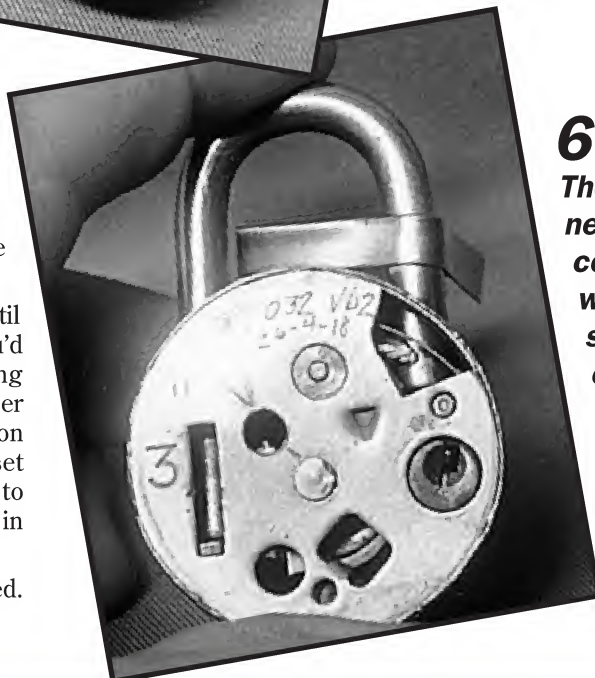
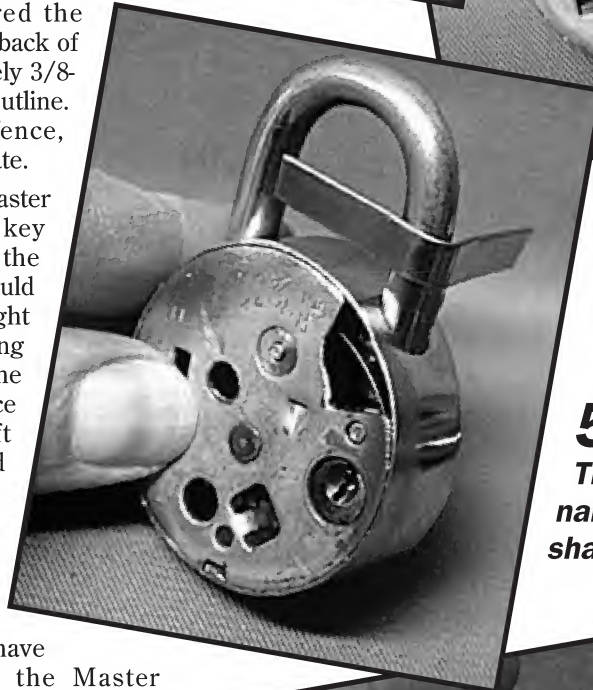
**3.** A 1500 series padlock with the outer back plate removed.



**4.** A viewing window is cut into the back plate to expose the spring catch.

**5.** The shim fits in the narrow gap between the shackle and the shackle opening.

**6.** The shim is nearly in contact with the spring catch.







**7.**  
*The arc at the top of the circular padlock body interferes with the shim.*



**8.**  
*The catch moving inward from the force of the shim.*

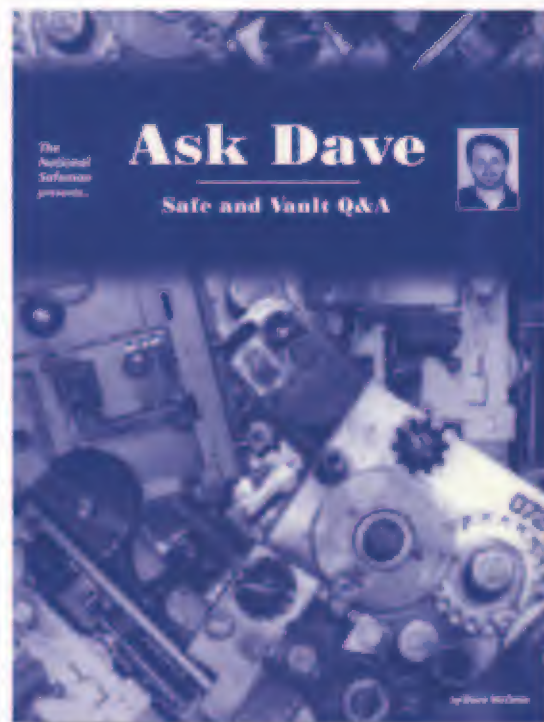


**9.**  
*Continue to push the shim downward as you finish the rotation.*

Then viewing through both gates, you would turn the dial until the gate of the last (drive) wheel was positioned in line with the fence. After identifying the last number in the combination, you could pull out the shackle to unlock the padlock.

There are probably few circumstances that would justify the previously mentioned procedure. Most Master 1500 padlocks will have a code number on the back. You can usually look up the code faster than marking, drilling and decoding. Even if you don't have the codes available to you, the time and labor involved would be rarely justified for the low replacement cost of a new padlock. Remember you would still have to repair the lock. You'd cheat yourself by charging no more than the cost of the lock, but cheat the customer by charging for actual time spent. If you did it just for amusement or to see how it's done, it might be worthwhile.

# Ask Dave



You asked. He answered. This is safe and vault Q&A with an attitude.

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#AD - 1



### Shimming a Combination Padlock

Probably the fastest way to remove a typical locked combination padlock is with a pair of bolt cutters. The problem is that at the end of the process, you end up with a broken shackle and a useless padlock. I've had an assortment of padlock shims for some time, but have rarely used them. Considering the subject at hand, I decided to test their effectiveness and ease of use on some locks.

The set of padlock shims I have are made by HPC. These are not the same kind of shims that you might use to shim open a pin tumbler lock cylinder. They are substantially thicker and stronger. *Photograph 4*, shows a modified Master 1500 series padlock with a viewing window cut into the back plate to expose the spring catch. The two smallest of the four sizes that came with the set are just to the right of the padlock. The packets of padlock shims indicate the sizes 1/8 and 9/64, but I know the shackle is considerably larger if they indicate fractions of an inch. I tried to use the larger size padlock shims, but they seemed too large. The two smaller sizes seemed most effective.

*Photograph 5*, shows how the shim fits in the narrow gap between the shackle and the shackle opening. I was a bit surprised that the gaps were as small as they were. For some combination padlocks, it was a snug fit and took a bit of maneuvering to slide the shims inward. You will need to know which end of the shackle locks into the spring catch, or you can waste a lot of time trying to shim the non-locking side. If you run into a 1500 Master padlock with key bypass, you will find the keyed cylinder on the right side (from the back view). The

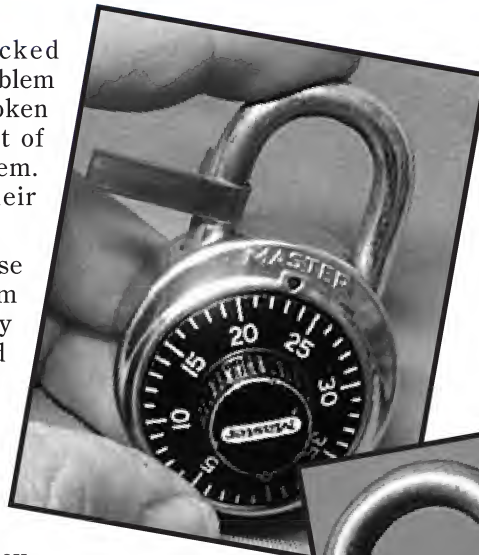
spring catch is usually on the

same side as the keyed cylinder because a mechanism attached to the cylinder needs to push back the catch.

A 1500 padlock without key bypass won't have any obvious clues as to which is the toe locking side. Either compare it to an unlocked Master 1500, or just remember that it locks on the right side (from the back view). It's on the left from a front view. A close-up view, in *photograph 6*, shows the shim positioned along the shackle and nearly in contact with the spring catch. The catch seems to be offset slightly forward (toward the dial side), and I found it very awkward to maneuver it open from this vantage point. When I would try to rotate the shim clockwise, the leading surface of the shim met with great resistance. It would more often bend than push back the catch. On this padlock, the gap was larger on this side, so I inserted the shim here and rotated counterclockwise to a more advantageous spot.

The shim is better positioned for opening in *photograph 7*. The arc at the top of the circular padlock body interferes with one handle of the shim. As the shim is further rotated in the counterclockwise direction, the obstruction to the handle will minimize. You should push the shim further downward as you rotate, and you will start to feel the shim surface make contact with the spring catch. The cutaway view, in *photograph 8*, shows the catch moving inward from the force of the shim. Continue to push the shim downward as you finish the rotation as in *photograph 9*, when the spring catch is completely dislodged from the shackle.

*Photograph 10*, shows a front view with the shim all the way down. The shackle is still closed, but there is nothing stopping the shackle from coming out of the padlock body. When the shackle is pulled outward the spring catch will pop back out, as in *photograph 11*. You should hold the shim downward as you pull out on the shackle so the shim doesn't just pull out instead and end up re-locking the padlock. With a little bit of practice, you should get a pretty good feel for the amount of movement and force required. It is surprisingly easy. **TNL**



**10.**  
A front view  
with the shim  
all the way  
down.



**11.**  
When the  
shackle is pulled  
outward the  
spring catch will  
pop back out.

## Diary Of A Safeman



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#DIARY



# 1997 Ford Escort LX



A gold 1997  
Ford Escort. 1

*It was a bleak day that started slow in the morning, but picked up with a fury in the early afternoon. A few car openings and a residential rekey job before noon, then a local car dealer called. Same story, "the car is sold, the customer is waiting, and we need the keys right away." "How fast can you be here?"*

*A flash of lightning was followed by a loud clap of thunder, as the rain sheeted across the windshield. "I'll be there right away," I heard myself say. Mail Men, Pony Express riders and Locksmiths, who else would be out on a day like this? The rain alternated between a downpour and a drizzle.*

*I arrived at the dealership, and dodged the raindrops as I ran for the door. I was met by a salesman that sipped leisurely from his hot cup of coffee, as he motioned vaguely out across the lot with his free hand. "I think we need keys for that gold 1997 Escort in the second row." (See photograph 1.) I looked out across the lot trying to locate the car, then turned to ask the salesman if his customer was still waiting. The salesman was gone. What a guy!*



by  
Bob Sieveking

The trick is to make a working key for this auto without spending too much time in the rain. This was not a good day to disassemble a door panel.

Before we can begin the job, we need to know some specific information about the locking system used on this vehicle. By crossing the year make and model of the car we find the facts as you see in *illustration A*.

1. The proper key is an Ilco X244 (EZ, Jet or Curtis H-76). This is a Mazda 10 wafer lock system.
2. The 1200CMB code card is XF68. Use cutter CW1011.
3. The key is gauged from the shoulder.

With this information we can set up our code machine and select the proper key for the vehicle. Set-up information is also shown for the ITL machine, Pack-a-Punch, Curtis



2 Wedge the passenger side glass at the front edge of the lift handle.



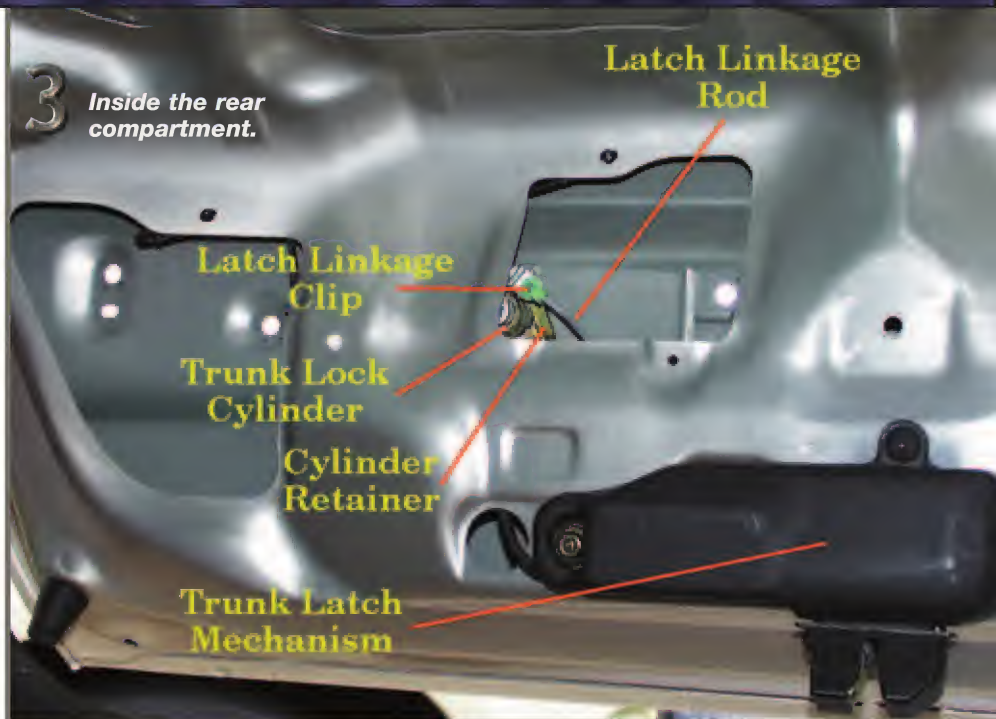
Clipper, 1200 CodeMax, and Framon code machines. If you are using depth and space or guide keys, use the Aero MAZ-5 or Baxter FGK272 key set.

This vehicle uses Mazda locks. The key code will be found on the passenger door lock cylinder. There are a number of code series used on the Ford Escort from 1997 to 1999. The code series are: 10100-12099; 12100-12283; and 20100-23284.

Under the "tumbler locations" block, you will see that the doors and trunk will contain tumblers in positions 3 thru 10. The ignition will have tumblers in positions 1 thru 8.

Because the goal is to generate a working key for this vehicle in the shortest possible time, we will not consider removal of the door trim and door cylinder. It has been my experience that removing the trunk cylinder is usually faster and easier than removing a door cylinder.

The vehicle was locked, so we had to open it to begin. The Tech-Train Quick Entry manual suggests using the TT-1017 vertical rod tool and wedge for this vehicle. Wedge the passenger side glass at the front edge of the lift handle, as you see in *photograph 2*.

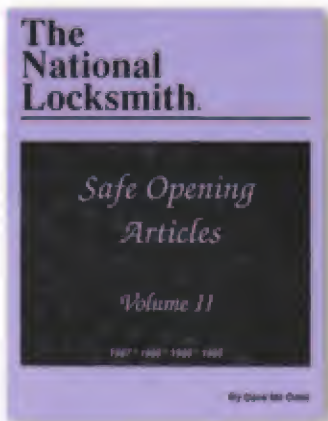


The vertical lock linkage is not shielded. Insert the tool so that the hook approaches the vertical lock linkage from the outboard side of the door. You will not need an inspection light. The rod is easily located just below the bottom of the glass. Watch the button. When you contact the vertical rod, move the tool toward the front of the car to

bind the tool to the rod, then lift the tool to unlock the door. The tool is shown in the approximate position to engage the lock rod. Notice that the tip of our tool has a small plastic sleeve. This greatly enhances the grip of the hook on the vertical rod. Be very careful as you remove the tool from the door.

Use this tool with caution. This tool is known as "The Glass Breaker Tool"

## Safe Opening Articles



Dave McOmie's original articles from when he first started writing for The National Locksmith are reprinted in this book.

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#SA - 2

## Safe Deposit Box Service



There is gold in safe deposit boxes!

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#SDBS - 1



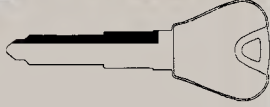
because it will shatter a window with very little effort. When removing the tool from the door, be careful not to hook the bottom edge of the glass. If you hook the bottom of the glass, then rotate the tool as you remove it, you will shatter the glass every time.

With the car opened, a quick search was made for the keys. No keys were found, so we went to the glove box in search of the paper code tag that accompanies the keys when the car is delivered. Two keys and a white paper tag, bearing the key code and a bar coded key code number, were delivered with the car when it was new. The glove box was empty.

A trunk release lever on the outboard side of the drivers seat allowed us to open the trunk compartment. If the release does not work, or if the model you are working on does not have the remote release lever, pull down the rear seat back to access the rear compartment. All of the Ford Escorts and Mercury Tracers have flip down rear seat backs.

Photograph 3, shows the view from inside the rear compartment. The trunk cylinder is easy to reach. Grasp the lock actuator rod and move it up and to your left to unlatch the trunk.

The trunk cylinder is mounted behind the plastic "light bar." Remove eight sheet metal nuts to loosen the light bar from the trunk lid, as you see in photograph 4. Carefully lift the light

FORD	Escort	1997-99	FO31
<b>Face caps</b> ASP,AL,B&S	<b>codes</b> 20100-23284		
<b>ign</b>	<b>valet</b> -		
<b>dr</b>	<b>Baxter Bk 19</b>		
<b>tnk</b>	<b>NL:HPC -</b>		
<b>Keying kit</b> ASP,AL,B&S	<b>Reed 13-F/J-052•</b>		
<b>ign ?</b>	<b>Curt 21244</b>	<b>1200 XF68</b>	<b>Ilco X244</b>
<b>dr+</b>	<b>MZ-5</b>	<b>MZ-5A</b>	<b>ctr CW-1011</b>
<b>Gauge shldr</b> Japan	<b>cutr</b> 15W-47	<b>space--depth</b>	<b>Tay X244</b>
<b>ITL</b> #297 -flt3 -ins2	<b>tumbler locations</b>	<b>.098</b>	<b>1 .315</b>
<b>PAP</b> F06- 88T	<b>ign</b> 12345678••	<b>.181</b>	<b>2 .299</b>
<b>MAX</b> DSD#253	<b>dr</b> ••34567890	<b>.264</b>	<b>3 .283</b>
<b>T/O</b> -	<b>tnk</b> ••34567890	<b>.347</b>	<b>4 .268</b>
	<b>gb</b>	<b>.430</b>	<b>5 .252</b>
<b>Framon:S-B-I</b> .083 3 .0157		<b>.513</b>	<b>6</b>
<b>G-Keys</b> MAZ-5, FGK272 <b>All</b>		<b>.596</b>	<b>7</b>
see MZ01. •codes 10100-12099= Reed 10-02-		<b>.679</b>	<b>8</b>
090, FCB2-597. 12100-12283=13-F/J-049.		<b>.762</b>	<b>9</b>
code on pass dr cyl. or diss tnk cyl for cuts		<b>.845</b>	<b>10</b>
3-10 then progress ign for cuts 1&2. (drop rear			<b>11</b>
seat-back to release tnk.)		<b>10wafer</b>	<b>Sub.</b>

panel away from the trunk lid and place it in the trunk. There is no wire harness to disconnect, because there are no lights in the "light bar." The red inserts are reflectors.

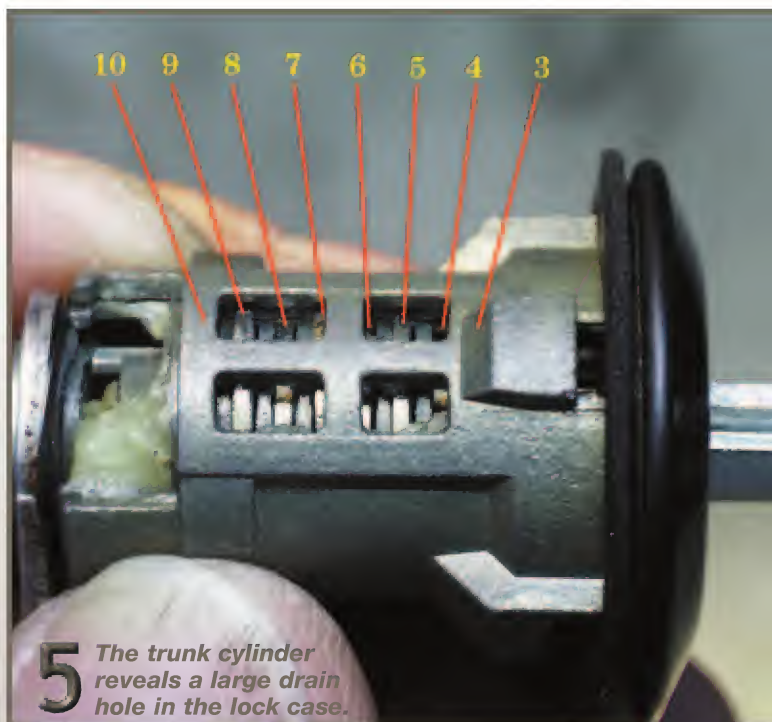
Unsnap the latch linkage rod clip and separate the linkage rod from the cylinder cam. Use a pair of long nose pliers to remove the cylinder retainer and disassemble the lock cylinder from the trunk lid.

A close inspection of the trunk cylinder reveals a large drain hole in the bottom of the lock case. (See photograph 5.) We know that the cylinder contains 8 wafers. Wafers 3 thru 10 are contained in this cylinder. Wafers 4 thru 9 are easy to see, but

wafers 3 and 10 are shielded from view by the cylinder case.

This is a true double-sided cylinder, with the wafers alternating, top and bottom. The key will need to be cut on both sides to operate.

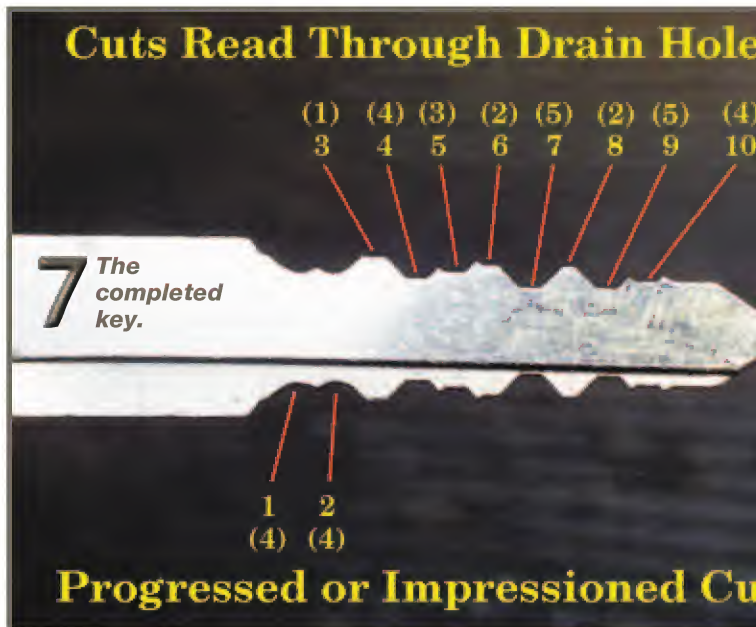
If you are using guide keys, you can use them to decode the depths of the wafers. Insert each guide key into the cylinder, and observe the height of the wafers. Remember that this is a true double-sided cylinder, so you will have to reverse the guide key to read the top and bottom wafers. Decode wafers 4 thru 9 first. Then you will be able to see under the edge of the cylinder shell to decode wafers 3







**6** The ignition cylinder.



**7** The completed key.

Progressed or Impressed Cu

and 10. This is a good time to use your lighted magnifier or otoscope.

Code cut the key and try it in the cylinder. When you have a working key, try it in the doors of the vehicle.

If you are not using guide keys to generate the working key, you can insert an uncut key into the cylinder

and read the heights of the wafers. There are five depths. When reading the wafers, guess the heights shallow. If you think the cut is a five depth, cut a four depth and try the key. If the wafer is still high you can always cut it deeper. I have not figured out how to make a cut shallower, and there is no need to waste the key. Again, decode wafers 4 thru 9 first. Then, read cuts 3 and 10 under the edge of the cylinder shell. Test your working key in the doors.

You will note that we did not disassemble the cylinder to read the wafers. This method eliminates the need to remove and replace the cylinder cap (or scalp).

Replace the trunk cylinder and reconnect the latch linkage. Be careful as you replace the sheet metal nuts that hold the "light bar." Start them by hand and do not over torque them. If you try to make them too tight, you will break the plastic attachment nipples.

At this point, we have a key that will operate the doors and trunk. We are only missing cuts in positions 1 and 2.

A quick look at the codes reveals that the maximum adjacent cut specification (MACS) for this series is 3. This means that it is possible to have a 1 depth next to a 2, 3, or 4 depth, but never a 1 depth adjacent to a 5 depth. The ignition is not sidebar, so we can impression to find cuts 1 and 2 or progress the cuts to complete the key.

This system uses serrated wafers, which makes impression a little more difficult, but not impossible. I read and impressed the key, but offer the progression chart, *illustration B*, as a preferred alternative. Remember, when cutting this progression the cuts in positions 1 and 2 are on opposite sides of the key.

*Photograph 6*, shows the ignition cylinder. It is not necessary to remove this ignition to make a key. This is a "push down" ignition. When removing the key, it is necessary to push the key in as the plug is rotated from the "ACC" to the "OFF/LOCKED" position.

*Photograph 7*, shows the completed key. Cut depths are shown in parenthesis. The key was cut: 4-4-1-4-3-2-5-2-5-4.

A little inside information will help you make short work of these popular autos. There is no need to remove more than the trunk cylinder, and you will need no more than a blank key to complete the job. If you decide to impression the ignition for the unknown cuts, do not use excessive force. If you warp or break a wafer, you'll have a time disassembling the column to repair an easily avoided problem.

Say the words, get the money, and move on. It looks like the rain is clearing, and I have a few more stops to make before I can head for the barn. Good luck. **TNL**

If cut is:	1st key	2nd key	3rd key	4th key
1	11 12 13 14 24 34 44 54	21 22 23 33 43 53	31 32 42 52	-
2	11 12 13 14 25 35 45 55	21 22 23 24 34 44 54	31 32 33 43 53	41 42 52
3	11 12 13 14 25 35 45 55	21 22 23 24 34 44 54	31 32 33 43 53	41 42 52
4	11 12 13 14 25 35 45 55	21 22 23 24 34 44 54	31 32 33 43 53	41 42 52
5	12 13 14 25 35 45 55	22 23 24 34 44 54	32 33 43 53	42 52

**B**



# PRODUCT SHOWCASE

ISC West - March 14-16, 2000

Circle the numbers on the **RAPID REPLY CARD** and send it in.

## Locknetics New Family of Electromagnetic Locking Systems



CIRCLE NUMBER  
321

Locknetics Security Engineering has unveiled a highly innovative new series of electromagnetic locks, the MagForce™ Plus family. This electromagnetic lock product line represents a significant evolution and improvement on Locknetics' 390 Series, which had already been recognized as leading the industry.

The MagForce Plus series of electromagnetic locks consists of: the High-Security 390+ series models, which provide 1650 lbs. of holding force; and the Traffic Control 320+ series, with 700 lbs. of holding force. The design also features a new armature housing that provides quieter operation, greater reliability and improved aesthetics. Redesigned top jamb brackets increase security with no exposed screws and also feature slide-in architectural finishes for a refined appearance.

## Jensen Tools New Electronic Service Kit

Jensen Tools offers a new JTK®-32 Electronic Equipment Service Kit with 78 quality tools that provide users with the most needed tools for installing, trouble-shooting and repairing equipment. It comes in your choice of a slim-line poly attaché or a Cordura® zipper case. The attaché is recommended when airline travel is



CIRCLE NUMBER  
322

involved, while the zipper case may be preferred for local use. Both come with removable tool pallets for working convenience.

## Videx Access Products Offer Audit Capability



CIRCLE NUMBER  
323

Videx announced an intelligent lock that provides a comprehensive audit trail. TouchAccess™ can easily be installed on file cabinets, storage containers, toolboxes, and anywhere that controlled entry is desired. A record of every entry, closure, and denied entry is stored in TouchAccess, and can be immediately transferred to a Palm™ organizer upon request. Each authorized user is issued a Touch Memory key that contains a unique ID number. Each time the authorized user opens and closes the TouchAccess lock, their user ID number is recorded along with the date and time of the event.

Since TouchAccess incorporates a mechanical lock, it does not permit

unauthorized entry. If forced entry is attempted, a local alarm will sound, alerting everyone in the surrounding area. TouchAccess can be programmed with up to 524 authorized user keys, and stores the most recent 526 events. TouchAccess is programmable with user-defined access times, allowing management to establish at what times and on which days an authorized key holder has access. The TouchAccess lock transfers its stored data via an IR connection to either the PalmIII™ or PalmV™ organizer.

## Truecraft Tools Adds Wire Cutters and Strippers

Truecraft Tools has added a new line of cable and wire strippers and cutters for most electrical applications. The new items include multi-functional pliers

including wire cutters and strippers, terminal crimpers and machine screw cutters.

Truecraft Tools 9 1/2" High Leverage Cable Cutter, item number

371, is manufactured from high carbon alloy steel with a natural polished jaw. The high leverage design provides more cutting power over standard cutters.

The cutting blades are induction hardened providing many years of cutting operations. Heavy-duty textured grips provide cushioned comfort with less slippage. Fully machined shear type cutting blades make clean and exact cuts. The pliers have cutting capacity up to 4/0



CIRCLE NUMBER  
324



Aluminum and 2/0 copper, however they are not designed for cutting steel or ACSR.

Two Wire Cutter and Strippers for fixed gauged stripping stations for cutting 16-26 A.W.G. or 10-20 A.W.G., item numbers 463 and 466 respectively, are now available from Truecraft Tools. They feature a serrated pliers nose and automatic spring.

### Optex Wins Best New Product Award



**CIRCLE NUMBER**  
325

WT-110, a 4 zone sequential switcher and digital event recorder brings digital recording to new 'low cost' markets. Crystal clear, digital images from 4 cameras are stored to 8 or 16MB smart media cards for easy retrieval. Since there's no tape or recording heads to wear out, WT-110 provides many years of reliable and easy operation. Built-in alarm system interface provides customers with alarm event recording.

### Ilco Unican's Solitaire 850L

Ilco Unican's new Solitaire 850L is an intelligent standalone electronic lock that installers or end-users can program quickly and easily using specially designed LearnLok™ cards. With the Solitaire 850L, employees can even use their own credit cards or bankcards to access their facility, relieving organizations of the need to constantly order and track cards. To program, installers or security personnel simply swipe LearnLok cards through the reader along with the user's own personal card. The Solitaire 850L can be programmed with up to 200 users.

Engineered to comply with ANSI/BHMA Grade 1 standards and tested to UL/ULC standards, the all weather lock is powered by four standard AA alkaline batteries. Both mortise and cylindrical models are available. A LearnLok starter pack



**CIRCLE NUMBER**  
326

includes a quick reference guide, user log, programming cards, user cards and cancel cards.

### Visonic Ltd. Introduces the CL-8

Visonic Ltd. presents the small and simple to operate CL-8 microprocessor controlled digital keypad. The CL-8 is suitable for surface or flush mounting and responds to 56 individual user codes. The CL-8 is supplied with a Form C 10amp relay, which can be programmed to operate at 98 seconds, or in a latching mode. Also supplied are an auxiliary output, a panic output and a request to exit input which operates the relay from a remote switch, PIR, etc.

Other features include EEPROM memory. The CL-8 offers the



**CIRCLE NUMBER**  
327

dependability and advanced technology that Visonic Ltd. users are accustomed to.

### Secura Key Radio Key®600e Stand Alone Proximity Reader



**CIRCLE NUMBER**  
328

Radio Key® 600e allows any of up to 600 users to be assigned either a proximity key tag or card to gain entry. To use Radio Key 600e, simply hold your proximity tag or card near the access control unit. The RK600e is easily programmed with an inexpensive proximity card deck and is highly price-competitive for many stand-alone applications. The Radio Key 600e is fully weather resistant, and is designed for indoor or outdoor use.

### Tripp Lite Isobar® Surge Suppressor

The Isobar 6 DBS, with its mix of coaxial and phone-line connections, is flexible enough to adapt to all current and future applications. It offers a combination of features not found on any other surge suppressors. These include, indestructible, all metal housing with a wall-hugging plug, isolated filter-bank design prevents interference between connected equipment, 2 sets of coaxial connectors (one set protects cable, cable-modem, or antenna links; one set protects satellite TV or high-speed satellite Internet access), phone jacks protect high-speed modem or pay-per-view lines, and Gold plating on all jacks and





connectors provides superior signal transmission quality.

The IsoBar 6 DBS also features 6 surge and line-noise protected AC outlets to safeguard all the components of a home entertainment or PC system.

### Alarm Lock Trilogy T2 Electronic Digital Lock

Alarm Lock Systems has an enhanced version of its popular Trilogy T2 electronic digital lock - the DL2800. Available in both waterproof and non-waterproof models, the DL2800 comes in four finishes and with either lever or knob handles. The DL2800 has all of the features of the DL2700 and DL2750, including a



clutch mechanism for long life and durability, self contained full programmable 12 digital metal keypad, one-time emergency or service entrance code which erases from memory after one use, and multi-level user capability. It adds the following special functions: increased number of user codes - up to 90; faster programmable passage times - as low as two seconds; selected manager codes with Passage Mode Control; Auxiliary Relay Functions programmable at the keypad so that no jumper or PCB access is necessary; audible and visual LED programming prompts for the easiest use yet.

With all of this enhanced capability, the DL2800 is ideal for both indoor and outdoor applications where complete access control is critical.

### Seco-Larm USA 2-Channel RF Receiver and Transmitters

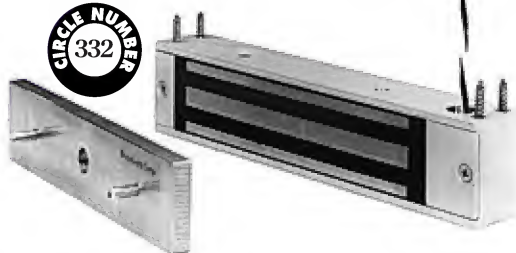
The Seco-Larm SK-910R2, 2-Channel RF Receiver, now with a



range of up to 650 feet, has been improved to be better than ever. When the SK-910R2 is used with either the SK-919TD2A (fixed code transmitter) or the SK917T2A (code hopping transmitter), the RF transmitter and receiver pair may be used to control the opening and closing of a garage door or gate, house lights, alarm control panel, or other functions that require momentary or shunt operation.

The SK-910R2 Receiver has four programmable output modes including 4-second momentary, 1-second momentary, toggle and latch output. For easy learning of transmitters the SK-910R2 has 2 mode switches (one for each channel) and 2 built-in LED indicators which display which channel is receiving the signal from the transmitter. Also included with the SK-910R2 are two FORM-C dry relay (N.O./N.C./COMMON) contacts rated 10 Amps at 24 VDC, as well as screw terminals for easy connection.

### DynaLock Corp. 2585 "Bantam" Lock



The 2585 "Bantam" Lock is an economical basic electromagnet for use on low-security, non-rated doors and frames. It is designed to offer a compact unit for applications where space is at a premium. The 2585 is available for either 12VDC or 24VDC operation. Surge suppression is provided by a built-in MOV. **TNL**

**Transponders**

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#TS - 2001



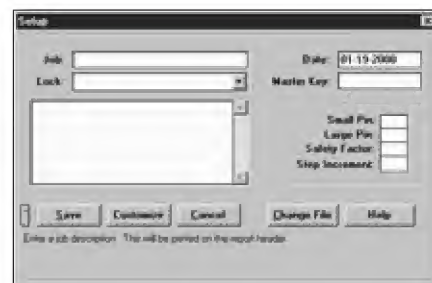
# KeySoft Security Software

Quick, Easy, and Powerful  
by Rick Wilkenson

keying.  
This makes  
Masterkey-Pro™  
the perfect choice for  
pro-fessionals and novices alike.

## Creating a New Master Keying System

The Setup window is where you'll enter the setup information needed to create a new master keying system. (See figure 1.) From here you'll have control over several customizing features or you can create a system in as little as three easy steps.



**1. The Setup window is where you'll enter the information needed to create a new master keying system.**

First choose a lock from the Lock List, enter the master key cuts and save it. It can be that simple.

There are plenty of other customizing possibilities available. The Setup window is pretty self-explanatory.

To create a sample new system, in the Setup window first enter the job description "Test." Then click the down arrow in the Lock field and choose "Schlage" from the list. This will automatically enter all the pin size information for you. Then enter the Master Key "63405" which is not shown in the illustration. (See figure 2.)

## The Lock List

Let's look at the Lock List. Choosing a lock manufacturer from the Lock List (a "Dropdown List" that displays lock manufacturers with pre-

## Flexible Reports

Each report can also be edited to meet your immediate needs by typing whatever additional information you want directly into any of the reports. You can even use the cut & paste feature to move information around and/or cut it out now and put it back later if needed. This really cuts down on the size of your reports because you can arrange all the information in the order that's most useful to you. You can also copy information and paste it directly into your favorite Windows word processor or simply save it as a text file. This makes it easy to give your customer the reports you want them to have.

## EZ Cross-Keying

EZ Cross-Keying shows you how to make more than one change key fit a common cylinder and control it. It also shows you how to stack pins for keys you want to fit a cylinder and figure "All" the keys that fit an existing cylinder with stacked pins. It will even show you how to plan your Cross-Keying jobs and much more.

## Easy Working Environment

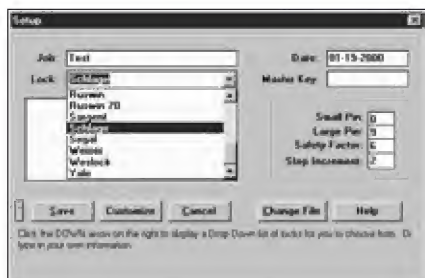
Because Masterkey-Pro was written for Windows and not just a DOS program that runs in Windows, you get the easy point and click working environment you expect. This makes it easy for you to access the many features available plus a full menu driven help system. There is also a section on "Basic Master Keying" to help you out if you're new to master

If you are looking for a professional strength master keying software package that will keep you looking like a pro, or just want to take the guesswork out of it, Masterkey-Pro from KeySoft could very well be your best choice. Used throughout the world since 1990, from the United States to as far away as Belgium and Australia by locksmiths, schools, cities, county's, institutions, the Air Force and Navy, Masterkey-Pro works.

Masterkey-Pro™ is used to create master keying systems and print a number of useful reports. Reports like: Pinning reports that show you how to cut the keys and how to label them, what bottom pins and master pins to put in each chamber and a description. Master Keying reports, showing you the different levels of masters, sub masters, and the groups they fit and Cross-Keying reports. These reports take the confusion out of master keying and can save you many hours of frustration.

Each system you create with Masterkey-Pro can be customized by manipulating things like the Pin Size, Safety Factor (MAX), Step Increment, Key Biting Array, and Rotation Order.





**2. The Lock List is a “Dropdown List” that displays lock manufacturers with pre-set information.**

set information) will automatically insert the Small Pin, Large Pin, Safety Factor and Step Increment for that manufacturer. (See figure 2.) Although this information is automatically entered for you, you’re still able to edit this information on the “fly” by clicking on the field and making the change.

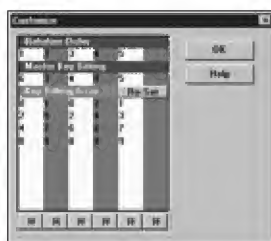
It’s also possible for you to change the default information that’s provided in this lock list if you prefer something else. Or you can add new locks to the list as they become available.

The five command buttons near the bottom of the Setup window are: Save, Customize, Cancel, Change File and Help. You can always find a Help button or just press F1 for help at any time.

### Customize Window

The Customize window is where you can enter custom setup information. From here you can change the Rotation order (shown in the first row showing a bow to tip rotation), View the Master Key, (second row of numbers) or change your Key Biting Array (the group of numbers below that). (See figure 3.)

Look at the bottom and you’ll see command buttons that have an “H” on them. Click the ones you want to hold constant if you want to create a hold and vary system, or you can click the re-set button to start all over. All of these customizing features give you the freedom to re-create virtually any existing system or just set the systems up the way you want to begin with.



**3. The Customize window is where you can enter custom setup information.**

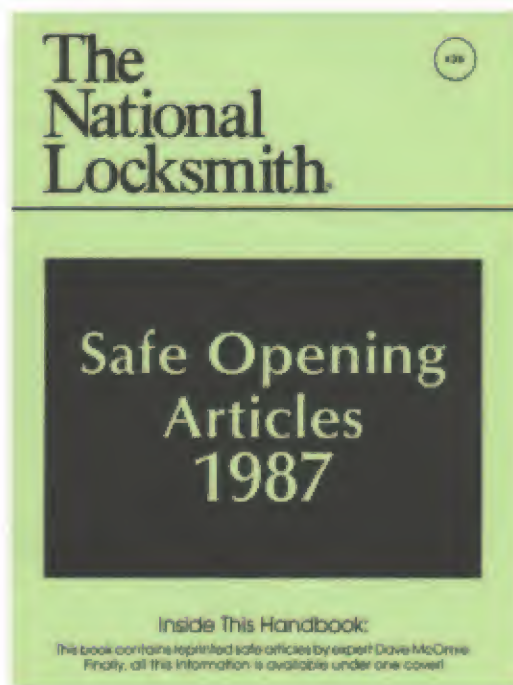
There are also in depth help screens to help you better understand the Key Biting Array and other customizing features if you’re new that sort of thing. Clicking the Ok button sends you back where you can save the system.

After you create a system you’ll want to view the various reports. Masterkey-Pro makes it easy to create your systems and it also gives you several report options all making the task of master keying easy. Masterkey-Pro is capable of generating over 200,000 change keys. That means you’ll get the full systems with all the possible Master Keys.

### The Main Window

After you’ve created your system and closed out the Setup window you’re left looking at the Main window. (See figure 4.) Look at the menu bar across the top. The first button displays the Setup window that we just left. The next is to Open an existing system. But then you’ll see some buttons in blue that are labeled A, B, C, D, and All. If you clicked the “All” button it will open the Report Editor and filling it with a report on the full system. But you can also open each individual group in it’s own

# Safe Opening Articles 1987



Now under one cover—all the information safe opening articles by expert safeman, Dave McOmie.

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#SA - 1





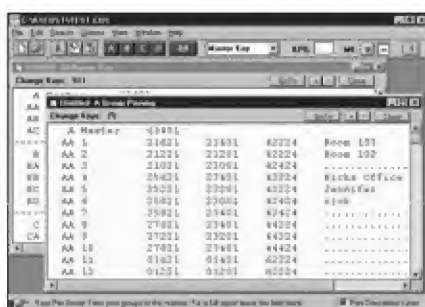


**4. The main window.**

editor by clicking on one or more of the other buttons. You can open several Report Editors at a time with whatever groups you want and with whatever type of report you want.

Next to that is a drop down menu with a list of several reports available. Then you have the "KPG" (Keys Per Group) field that trims the size of your groups. For example, setting it at 25 would give you 25 Change Keys then a Sub Master, 25 Change Keys then a Sub Master, and so on to the end. This is nice because you don't always want large groups of 50 or 60. Next is the MK (Master Key) buttons you can click the "+" or "-" for more or less sub masters if you need them. Then you have a Quick Help button.

Figure 5, is a look at the main window, with two reports open. One with the "A group" and one with the "Master Key" report. Masterkey-Pro gives you a Description Database where you can enter descriptions for each Change Key, then it attaches this fixed description to the proper Change Keys as you run the various



**5. The main window with two reports open.**

reports, or you can have it print a blank line to write in later, or both. You can also type additional information directly into any report you want and you can use several lines if needed, this makes it extremely flexible. And don't forget you can use the Cut & Paste feature to arrange the information the way that you

want it. For example, if you wanted a report with 10 Change Keys from the "AA group" and 15 from the "BA group" just Cut and Paste them together. You can type in additional job notes or special instructions if you would like then you can save it, print it or both.

As I mentioned earlier you have several reports to choose from, like Pinning, Master Key, Cross-keying, Key Tracking, Pin Count, Description etc. I'll discuss the first three, Pinning, Master Key and Cross-keying.

### Pinning Report

The Pinning report is one of the most valuable time savers. This report gives you the Key ID, along with the Change Key Cuts, Bottom Pins, and Master Pins needed to properly key-up each lock cylinder. (See figure 6.) It also shows you the Sub Master Keys for each group and the Descriptions or a blanks line to write them in by hand. The Sub Masters are placed in this report so that it's easy to see or understand what fit's what. But more importantly it's designed to make it easy for your customer to understand and sometimes that can be half the battle.

Sample Pinning Report

YOUR COMPANY NAME HERE  
YOUR ADDRESS HERE  
YOUR PHONE HERE

Page 1  
Job: Web Test System  
Key ID Change Bottom Lock: Schlage Master: 63405  
Master: 63405

Key ID	Change	Bottom	Lock: Schlage	Master: 63405	Descriptions
A Master 63403 This key fits all the keys that start with "A".					
AA 1	21643	21403	42442		
AA 2	21243	21503	42442		
AA 3	21043	21603	42442		Or... type names in directly
AA 4	21623	21403	42222		Or... write them in by hand
AA 5	21223	21203	42222		
AA 6	21023	21003	42442		
AA 7	21663	21403	42262		Rick's office
* Add as many lines as you need for each key description.					
AA 8	21263	21203	42262		
AA 9	21063	21003	42442		
AA 10	21683	21403	42282		
AA 11	21283	21203	42282		
AA 12	21643	21403	22442		
AA 13	21243	21203	22442		
AA 14	21043	21003	22442		
AA 15	21623	21403	22222		
AA 16	21223	21203	22222		
AA 17	21023	21003	22422		
AA 18	21663	21403	22262		
AA 19	21263	21203	22262		
AA 20	21063	21003	22462		
AA Master 61403 This key fits all the keys that start with "AA".					
AB 1	25643	23403	42242		
AB 2	25243	23203	42242		
AB 3	25043	23003	42442		
AB 4	25843	23403	42442		
AB 5	25623	23403	42222		
AB 6	25223	23203	42222		
AB 7	25023	23003	42422		
AB 8	25823	23403	42422		
AB 9	25603	23403	42262		
AB 10	25263	23203	42262		
AB 11	25063	23003	42462		
AB 12	25863	23403	42462		
AB 13	25683	23403	42282		
AB 14	25283	23203	42282		

**6. The Pinning report gives you the Key ID, along with the Change Key Cuts, Bottom Pins, and Master Pins needed to properly key each lock cylinder.**

For example, If you have Change Keys marked "AA 1 - AA 20" you'll also have an "AA Sub Master" displayed at the end of the "AA group" that will operate that group. At the end of the "AB group" would be

the "AB Sub Master" (not shown here) that would operate all the "AB Change Keys."

That's simple enough, but what if you wanted a Sub Master key that would open both groups? Look at the top just above the "AA 1 Change Key" and you'll notice the "A Sub Master." This key (if cut) would operate any Change Keys that started with an "A" that would be the AA, AB, AC, and AD groups in this case.

### Master Key Report

This report gives you a break down of all the available groups along with the number of usable change keys in each group. (See figure 7.) In our Pinning example above you saw how easy it was to come up with two separate groups, each group having its own Sub Master and another Sub Master that operates them both. The Master Key report is a planning tool that makes it easy to plan jobs like this because you can see the full structure of the system at a glance.

Sample Master Key Report

YOUR COMPANY NAME HERE  
YOUR ADDRESS HERE  
YOUR PHONE HERE

Page 1  
Job: Web Test System  
Key ID Web Test System Master: 63405  
Master: 63405

Key ID	Web Test System	Master: 63405	Lock: Schlage	Master: 63405
A Master 63403				
AA Master	63403	33		
AB Master	63403	60		
AC Master	67403	36		
AD Master	69403	16		
B Master 63401				
BA Master	63401	27		
BB Master	65401	48		
BC Master	67401	27		
BD Master	69401	12		
C Master 63407				
CA Master	63407	33		
CB Master	65407	60		
CC Master	67407	36		
CD Master	69407	16		
D Master 63409				
DA Master	63409	24		
DB Master	65409	47		
DC Master	67409	24		
DD Master	69409	12		

**7. The Master Key report gives you a break down of all the available groups along with the number of usable change keys in each group.**

Need 100+ change keys with a Sub Master? Use all the "B" groups, then just cut the "B" Sub Master to operate all of them. Note, it's possible to get smaller groups with more master keys by clicking the MK "+" button we talked about earlier.

### Cross-Keying

Next we'll discuss the Cross-Keying report. (See figure 8.) Cross-Keying a cylinder is where you make more than one Change Key operate that cylinder. An example would be a supply closet, or a conference room, things like that. This requires "stacking master



Sample Cross Key Report: YOUR COMPANY NAME HERE  
 YOUR ADDRESS HERE  
 YOUR PHONE HERE

Page 1  
 Job: Web Test System  
 Key ID Change Bottom Lock: Schlage Master: 63405

Key ID	Change	Bottom	Lock:	Master:	Descriptions
A Master	63405				
AA 1	X 21643	21403	42242		Enter names from the Database
AA 2	* 21243	21203	42242		Or... type names in directly
AA 3	* 21043	21003	42242		Or... write them in by hand
AA 4	* 21623	21403	42222		
AA 5	X 21223	21203	42222		
AA 6	* 21023	21003	42222		
AA 7	* 21663	21403	42262		Rick's office
AA 8	* 21263	21203	42262		
AA 9	X 21063	21003	42262		
AA 10	21683	21403	42282		
AA 11	21283	21203	42282		
AA 12	41643	41403	22242		
AA 13	41243	41203	22242		
AA 14	41043	41003	22442		
AA 15	41623	41403	22222		
AA 16	41223	41203	22222		
AA 17	41023	41003	22422		
AA 18	41663	41403	22262		
AA 19	41263	41203	22262		
AA 20	41063	41003	22462		

21003 Bottom pins  
 -----  
 42222 Master pins  
 xx22x Master pins  
 xx22x Master pins  
 x = No master pins

### 8. The Cross-Keying report gives you information where you make more than one Change Keys operate that cylinder.

pins" in one or more of the chambers. The problem is when you start stacking pins you get what is called unintentional crosses. In other words, the keys you intend to cross may not be the only keys that operate the cylinder.

Unintentional crosses are keys that you didn't plan on operating the cylinder when it was crossed, but would if they were tried. As you can see this could be a big problem for any system.

Masterkey-Pro provides a Cross-Keying feature that's easy to use. It let's you cross keys you want to cross. It gives you the pinning information for the crossed cylinder. Then it gives you a report that marks all the intentional crosses and the unintentional crosses. That way you can use both the intentional and unintentional crosses all to your advantage. Let me explain how the report is used.

For example, let's say we want four offices to be keyed differently, but we also want to have all four of those individual office keys assess the same conference room. The Change keys marked with an "X" are intentional crosses you enter from the Cross-Keying form (not shown.) Change keys marked with an "\*" are unintentional crosses that were marked when you run the Cross-Key report (they'll both work).

Shown to the right is the the keying for the cylinders you want crossed in this case the conference room. This is calculated for you by the Cross-Keying feature, you just copy it and paste it in your report where you want it.

Now look at the Cross-Keying report. If you DO

**21003 Bottom pins**  
**42222 Master pins**  
**xx22x Master pins**  
**xx22x Master pins**  
**(x = No master pins)**

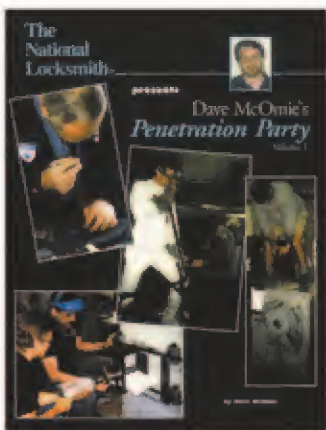
NOT want someone's key to operate this cylinder (the conference room) select one that's NOT marked (in this case "AA 10 - AA 20"). If you DO, select one that is marked (in this case "AA 1 - AA 9".) It's that simple.

There are various other ways to scatter keys that will cross through multiple groups. And setting up multiple cross key situations are all covered in the online Help.

Masterkey-Pro is a user-friendly application and KeySoft is a user-friendly company. Customers get free friendly support.

KeySoft can be found on the Web at: <http://www.MasterkeyPro.com> where you'll find Demos and additional information. Or you can contact them in one of the following ways. From inside the USA call: 1-800-505-6636. Outside the USA and for technical support call: 1-801-521-0869; E-mail: [keysoft@burgoyne.com](mailto:keysoft@burgoyne.com); circle 333 on Rapid Reply for more information. **TNL**

## Penetration Party

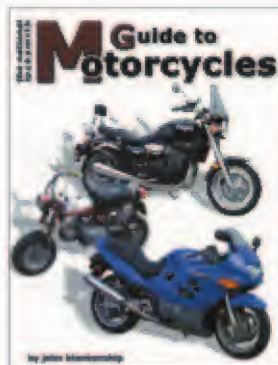


- Uncensored!
- The Safes!
- The Tools!
- The Action!
- The Perfect Openings!
- The Bloopers & Blunders!
- The Slick Tricks!

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#PP - 1

## Guide to Motorcycles



For years locksmith have begged for a comprehensive service manual on motorcycles and its finally here!

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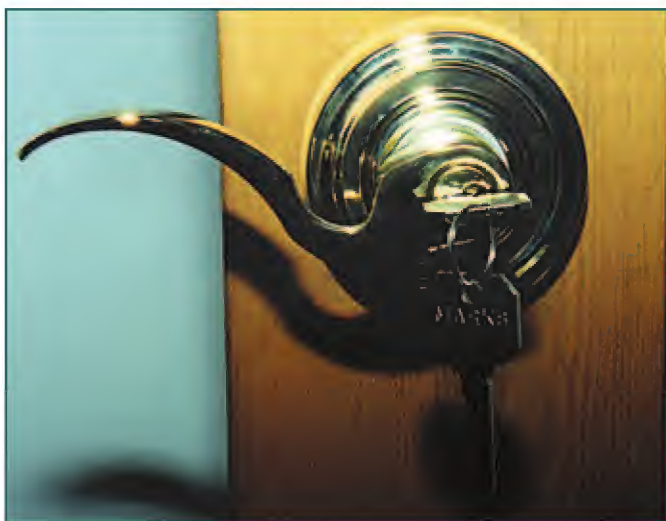
#MOT - 2



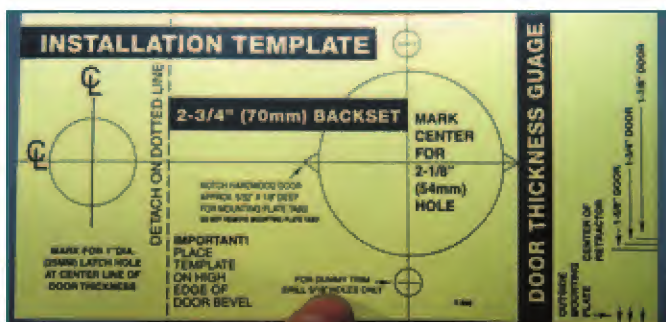
# MARKS Fancy SURVIVOR



by Giles Kalvelage



1. The Monaco Lever by Marks USA.



2. Handy installation template for 1-3/4" thick doors with 2-3/4" backset.



4. Check the adjustment of the lock for door thickness.



3. Install the deadlatch.

Today we're going to take a look inside the Marks USA grade 2 Survivor Series Lockset. This lockset is UL listed with 3-hour fire rating. The package is marked 370F/TZ-C. Looking into the box, I find a storeroom function lockset in bright brass with a 2-3/4" backset deadlatch. It has a fancy lever handle (the Monaco Lever) which might be found in an elegant office or home. Because of the "wave" style of the lever it is handed. (See photograph 1.)

Briefly, the nomenclature for this lock is 370, which describes the Survivor Series cylindrical clutch lockset. F describes the function. In this case F is a storeroom designation. Other functions are: AB - entrance, L- privacy, P- patio, DC- two lever

communicating, SB- inside only communicating lever handle, N- passage, S- classroom, DW- institution, DA- vestibule, H- hotel, DO- outside only dummy trim, DT- both sides dummy trim, and NB- exit only. TZ describes the finish of bright brass. C denotes the Marks USA "C" keyway, amazingly similar to the Schlage "C" keyway.

Usually a storeroom function lockset will have rigid knobs or levers. However, this lockset allows the outside lever to move up and down - under spring tension - but does not retract the latch. Marks USA calls this a "clutch" feature. Using the key, however, the latch retracts easily.





5. To remove outside lever turn the key 45-degrees, depress the catch and pull off the lever.

To expand on the lever clutch feature a little bit, it is designed to move up and down without retracting the latch. When the lockset is unlocked, a plunger will allow the lever to engage the retractor. In theory excessive force against a locked device will not transfer to the latch. Also, the lockset is designed so that hyper-extension of the lever is virtually impossible without force tools.

2-3/4" backset locksets are standard in the 370 series. 2-3/8" backset latches are available, and if ordered with the lockset, the proper installation templates will be shipped in the box. Replacement parts are available through your distributor.

#### Installation

Installing the lockset is very straightforward and standard for through-bolted cylindrical locksets, as is the door preparation. The installation instructions, which come with the lockset are easily followed, although they did not reference the new design of the lockset provided.

Included is an installation template for a 1-3/4" thick door using a 2-3/4" backset. (See photograph 2.) Mark your drill

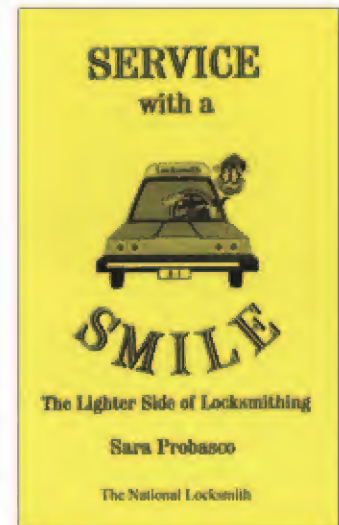


6. Make sure that the latch fits into the retractor and the latch tangs fit into the lockset housing.



7. Install the inside rose. Use the through-bolts. Notice the factory applied thread locker on the bolts.

## Service with a Smile



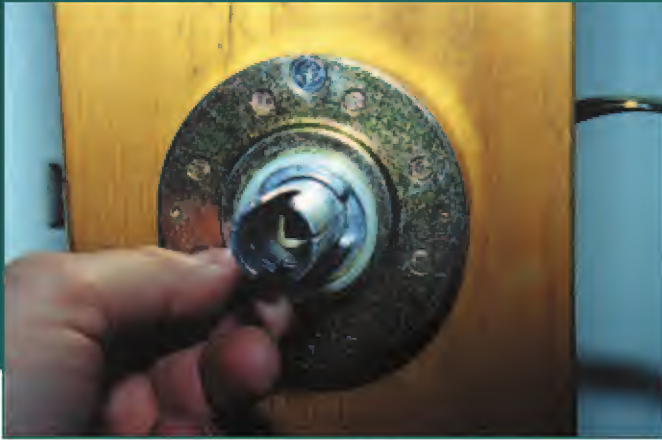
To tickle the funnybone of anyone in a service oriented business.

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#SWS





**8. A stepped plastic washer helps provide a tight fit of the lever.**



**9. The rose cover snaps into place. Note the horizontal notches in the cover.**

locations first. It's best to drill the 1" edge bore first. If you are installing the lock on a 1-7/8" thick or 1-3/8" thick door, don't use this template to find the drill point for the edge bore. If your door is not pre-drilled, it is recommended to drill the through-bolt holes next, then finally the 2-1/8" cross-bore.

If the door is prepped with the cross bore, the through-bolt holes can be made using an installation jig or fixture for best results. If you "free hand" the through-bolt holes they are likely to end up looking like the funky hole patterns depicted in *photograph 6*. It's not very pretty but will work. Mortise the edge bore to accept the faceplate of your latch.

Next install the latch into the door. (*See photograph 3.*)

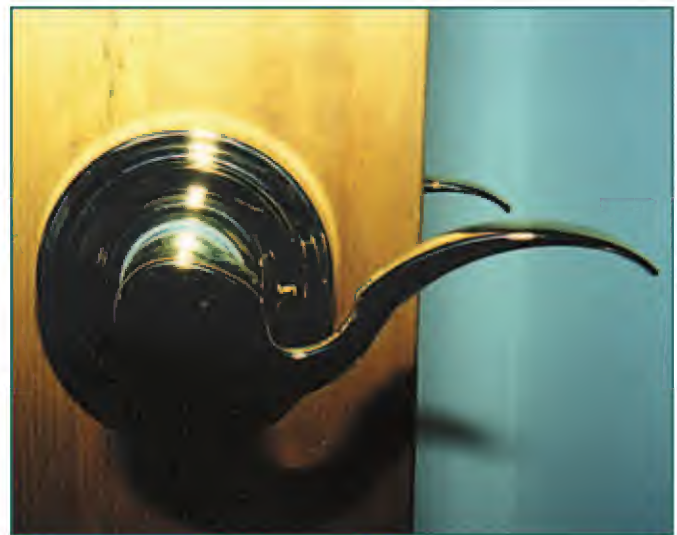
The inside lever and inside rose are installed on the lockset at the factory. They will need to be removed before installation. Depress the spring catch with the tool provided or similar tool to remove the lever. The catch will need to be depressed again to remove the rose. It's a stiff fit to remove the rose, but once you have the rose pressed against the fully depressed catch, don't be afraid to use a little outward force.

Check the adjustment of the outside rose to the center of the lockset retractor. The lockset should be factory adjusted for a 1-3/4" door, but since the same installation template that allows the marking of drill locations also has a thickness gauge, it's easy to check the lock before installation. The edge of the gauge should rest upon the outside rose and the center of the retractor should rest at the appropriate designation. (*See photograph 4.*)

If the lock is installed on a 1-3/8" thick door, optional spacers will need to be purchased from Marks USA, which will fit on each side of the door between the door and the roses. If the lockset needs to be adjusted, or the cylinder removed for rekeying, the outside lever must be removed. Insert the key and turn 45° in either direction. The key will stay in this position. Depress the lever catch and pull the lever off. (*See photograph 5.*)

The outside rose will now rotate in either direction. Rotate until the center of the retractor is in the desired location. Reinstall the outside lever by sliding it back onto the tube and snapping it into place. Make sure the key is still turned at a 45° angle from center.

Install the lockset through the secure side of the door over the latch. Make sure that the latch tail fits into the retractor and that the prongs of the latch fit within the case of the lockset. (*See photograph 6.*)



**10. The lever should slide on and snap into place.**



**11. The Marks USA 'C' cylinder. It's a 6-pin with a keyway compatible with Schlage 'C'.**





**12. Since all cylinders are installed horizontally, the tailpieces must be installed vertically onto the cylinder. Marks USA manufactures tailpieces which will retrofit OEM cylinders.**



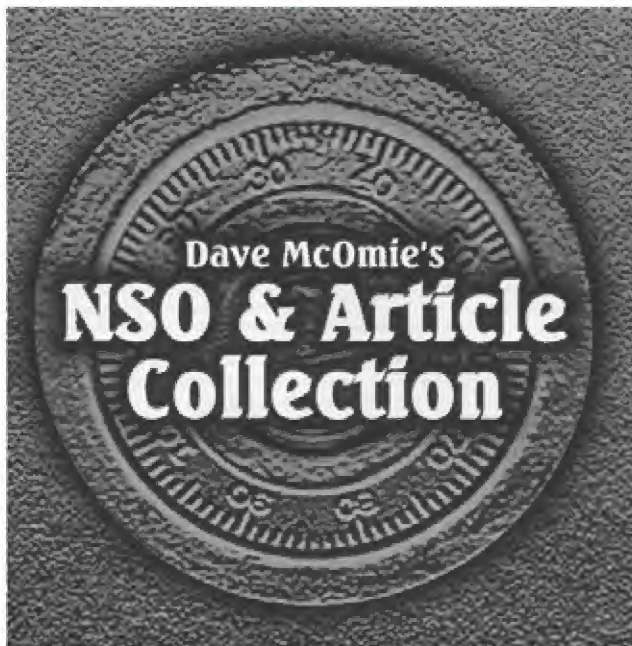
**13. The rose on the left is silver in color. It is to be mounted on the outside or secure side of the door.**

Push the inside rose over the inside spindle or tube. The catch may need to be depressed before the rose will slide all of the way onto the tube. Attach the through-bolts through the outside rose to the inside rose and tighten. There is no sub assembly or inner nut to tighten. (See *photograph 7.*)

There is a stepped plastic washer, which should now be placed into the rose. The smaller step of the washer should be toward the lever. (See *photograph 8.*) The larger step will fit completely into the rose.

The rose cover can then be snapped onto the rose. Make sure that the notches on the cover are in a horizontal alignment so that the cover may be easily removed with a flat blade screwdriver should maintenance to the lock be required. (See *photograph 9.*)

The lever should slide onto the tube and snap in place. (See *photograph 10.*) Check the operation. The latch should retract easily without binding when using the inside lever. The outside lever should move under spring resistance and return without binding. The latch should not retract because



## Dave McOmie NSO & Article Collection on CD

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#DMCD - 2





**14. The outside rose case is threaded to attach to the outside spindle.**



**15. With the rose case removed, one can see the spring, the lever return cam, and the lever connector.**

this is a storeroom function lockset. The latch should be retracted with the key without binding.

If the frame has not been prepped for the strike and dustbox, align the strike with the latch, trace the strike outline on the door jamb, and drill and mortise the jamb to fit. When checking the operation of the latch into the strike, be sure that you have the key or are checking it from the non-secure side. It's embarrassing to lock yourself out.

#### *Notes of Interest*

The cylinder supplied with the lockset is a Schlage "C" compatible keyway cylinder. However, those looking for tighter manufacturers tolerances, especially for master keying, change keyways altogether. Most bible type cylinders can be installed into the Marks lockset.

To facilitate this change, Marks USA has a list of tailpieces which must be installed on the replacement cylinder to assure the proper operation. (See photograph 11.) Without the use of these tailpieces, it may cause the lock to bind, cylinder to slip, the lever to be removed without the use of a key or not be able to be installed at all. As the cylinder will be mounted into the lock horizontally, all tailpieces are to be installed in the vertical position on the cylinder. (See photographs 12.)

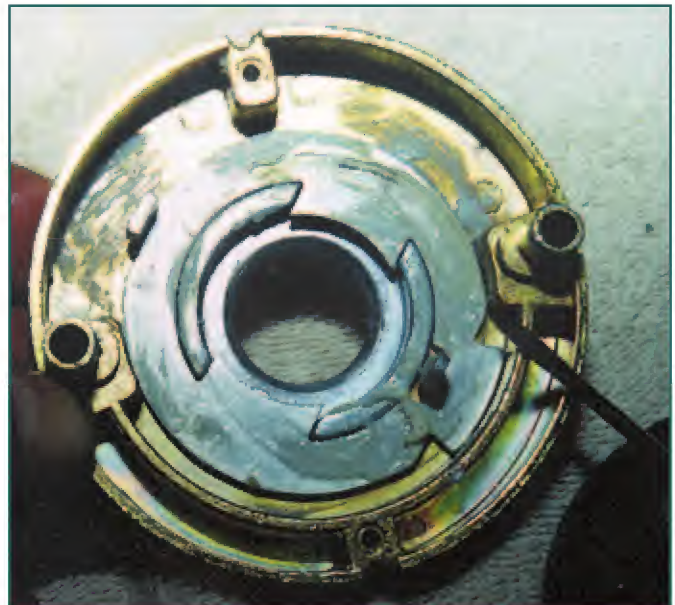
Marks tailpiece part numbers for the AB, DA (outside lever), DW, F, and H functions are:

- ❖ 1903: Marks 1982 "C" keyway
- ❖ 1903-L: Arrow PK100C; Ilco 705; Lori 1539; Sargent 13-3266; ASSA 65673, 65691; Abloy
- ❖ A1903-C: Schlage 23-001; Schlage Primus; Corbin Russwin 2000-34

Marks tailpiece part numbers for the S, SB, DC and DA (inside lever) functions are:

- ❖ 1903S: Marks 1982 "C" keyway
- ❖ 1903S-L: Arrow PK100C; Ilco 705; Lori 1539; Sargent 13-3266; ASSA 65673, 65691; Abloy
- ❖ A1903S-C: Schlage 23-001; Schlage Primus; Corbin Russwin 2000-34

The roses on this lock are actually spring cages. There is little difference between the inside and outside roses, unless of course, you mix them up when ordering a replacement. The obvious difference is that the outside



**16 . The lever return cam also acts as a brake as it rotates around to the post.**



**17. To disassemble the housing, remove the retaining wires.**





**18. Loosen the housing screws about an inch. This will keep the tube and actuator in place.**

rose is silver in color, while the inside rose is brass colored. (See photograph 13.)

Two other mechanically significant differences need to be noted:

1. The outside or secure side rose is threaded where it attaches to the outside spindle or tube for adjustment. (See photograph 14.) The inside or non-secure side rose is smooth as it slides onto the inside spindle or tube.
2. The outside rose also features threaded rose posts that secure the through-bolts. The inside rose has smooth rose posts.

Removing the two screws from the inside of either rose will allow the removal of the case. This exposes the few parts and mechanics of the spring cage. (See photograph 15.) The spring is positioned around studs on the lever return cam. The lever return cam also acts as a brake, to prevent the hyper-extension of the lever. (See photograph 16.)

The return cam is engaged by a connector, the final piece in the spring cage. The connector contacts the lever once it is installed. A feature that I particularly like about this lockset is that the metal portion of the lever engages the connector. While a plastic cylinder retainer is also installed into the lever, its job is only to retain the cylinder, not to activate any return spring.

Should it ever be necessary to disassemble the housing, the best way would be to remove the retaining wires from the housing. (See photograph 17.) Loosen the housing screws, but do not remove the housing cover yet. (See photograph 18.)

With the screws loosened it is then possible to “break away” the inside tube and assembly. (See photograph 19.) Be careful to hold the retractor in place or you will get to see how far the retractor springs can fly. (See photograph 20.)

The remaining outside actuator and tube can then be slid out of the housing. The inside tube and actuator is easily removable after completely removing the housing screws.

Finally, while not specifically discussed in this article, the 370 Series is also available in an interchangeable core model. While most of the installation instructions remain the same, the IC model has its own set of tailpieces for different size cores. Removal of the outside lever is accomplished by removing the cylinder and depressing the retaining clip through the figure eight cylinder hole with a small flat blade screwdriver.

For more information contact Marks USA at: (516) 225-5400; Fax: (516) 225-6136; E-Mail: [wjs@marksusa.com](mailto:wjs@marksusa.com); Web: [www.marksusa.com](http://www.marksusa.com). Or circle #290 on Rapid Reply. **TNL**

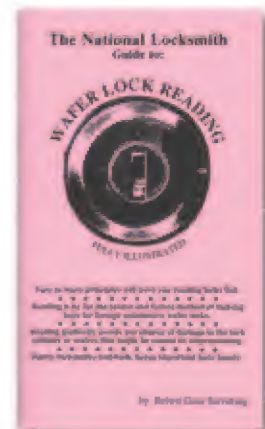


**19. While breaking away the inside tube assembly, don't allow the retractor to slip and shoot the springs out.**



**20. At this point, everything else virtually slips out. Reassembly is just the reverse.**

## Wafer Lock Reading



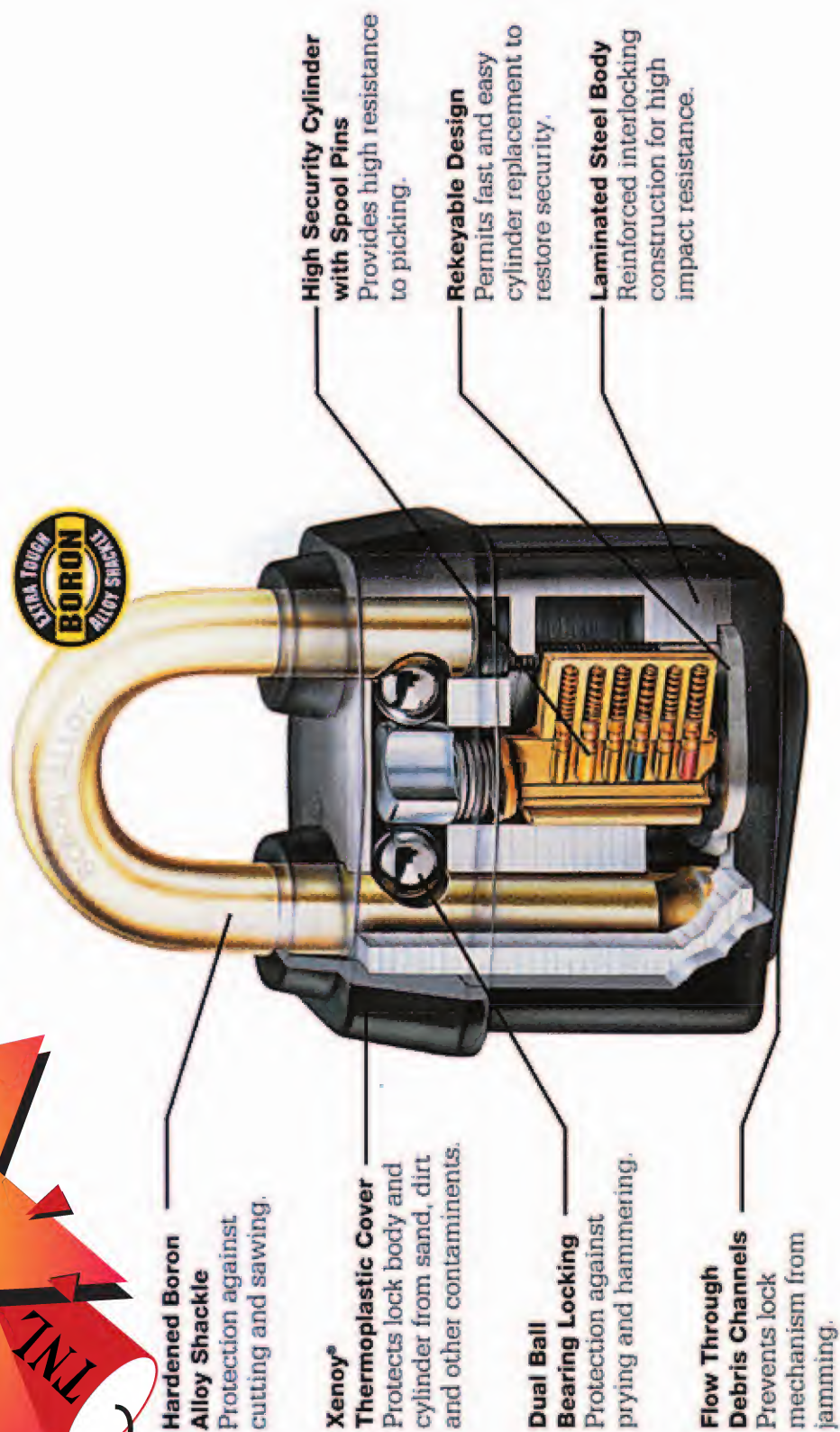
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#WLR - 1



# EXPLODED VIEW





## Specifications



### Padlocks

Shackle Dimensions

6121 Series	Description	Lock Body Width	A	B	C
6121	Pro Series Weather Tough™	2 1/8"	5/16"	1 1/8"	7/8"
6121LJ	Pro Series Weather Tough with extra Length Shackle	2 1/8"	5/16"	2 3/8"	7/8"
6121WCS	Pro Series Weather Tough without Cylinder & Shackle	2 1/8"	-	-	-



Shackle Dimensions

6125 Series	Description	Lock Body Width	A	B	C
6125	Pro Series Weather Tough™	2 3/8"	3/8"	1 3/8"	7/8"
6125LJ	Pro Series Weather Tough with extra Length Shackle	2 3/8"	3/8"	2 3/8"	7/8"
6125WCS	Pro Series Weather Tough without Cylinder & Shackle	2 3/8"	-	-	-



Shackle Dimensions

6127 Series	Description	Lock Body Width	A	B	C
6127	Pro Series Weather Tough™	2 5/8"	7/16"	1 3/8"	7/8"
6127LH	Pro Series Weather Tough with extra Length Shackle	2 5/8"	7/16"	1 7/8"	7/8"
6127WCS	Pro Series Weather Tough without Cylinder & Shackle	2 5/8"	-	-	-



Shackle Dimensions

6230 Series	Description	Lock Body Width	A	B	C
6230	Pro Series High Security	2 1/2"	7/16"	1 1/8"	7/8"
6230LH	Pro Series High Security with extra Length Shackle	2 1/2"	7/16"	2"	7/8"
6230WCS	Pro Series High Security without Cylinder & Shackle	2 1/2"	-	-	-



Shackle Dimensions

6321 Series	Description	Lock Body Width	A	B	C
6321	Pro Series High Security	2 1/8"	5/16"	3/4"	7/8"
6321WO	Pro Series High Security without Cylinder	2 1/8"	5/16"	3/4"	7/8"



Shackle Dimensions

6325 Series	Description	Lock Body Width	A	B	C
6325	Pro Series High Security	2 3/8"	3/8"	3/4"	7/8"
6325WO	Pro Series High Security without Cylinder	2 3/8"	3/8"	3/4"	7/8"



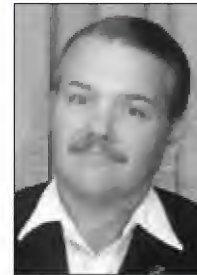
Shackle Dimensions

6327 Series	Description	Lock Body Width	A	B	C
6327	Pro Series High Security	2 5/8"	7/16"	3/4"	7/8"
6327WO	Pro Series High Security without Cylinder	2 5/8"	7/16"	3/4"	7/8"



# BEGINNER'S CORNER

## Keying Interchangeable Core Cylinders



*by*  
**Jim**  
**Langston**

**T**his month we will cover the construction, operation, assembly, and disassembling and determining the pinning of an interchangeable core lock. This article will serve as an introduction to the I-core lock, and how it differs from standard pin tumbler cylinders.

One of the main difficulties the newcomer to the locksmith profession encounters is the lack in consistency in terminology. Locksmithing is noted for the various terms used for the same part or action performed. The language not only varies from person to person, but from area to area. This variation and usage of terms by different locksmiths can be mainly credited to method or manner from which they learn the profession.

The following is a guideline of definitions that will be used when you encounter interchangeable cores.

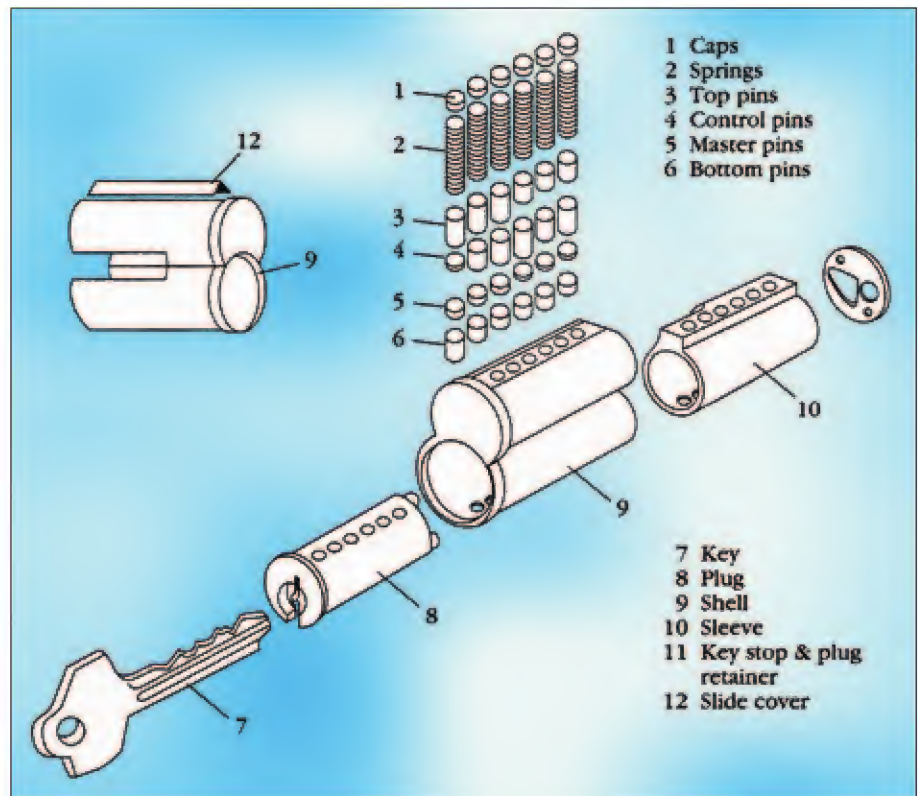
### I-Core Terminology:

- *Interchangeable Core* - IC; I-Core
- *Bottom Pins* - The first pins inserted in the core, which contact the key. Never use them as wafers.
- *Change Key* - The key that will open or operate one core. It will operate more than one only if they are keyed alike.
- *Control Key* - The key, which operates only the sleeve, thus rotating the locking lug allowing the insertion or removal of a core from its lock.



**1. The core and turned clockwise one-quarter turn for removal.**

76 • The National Locksmith



**A. The basic operation and parts of the interchangeable core.**

- *Control Sheer Line* - The area where the shell and sleeve meet where the pins must be level when the control key is inserted in order to rotate the locking lug.

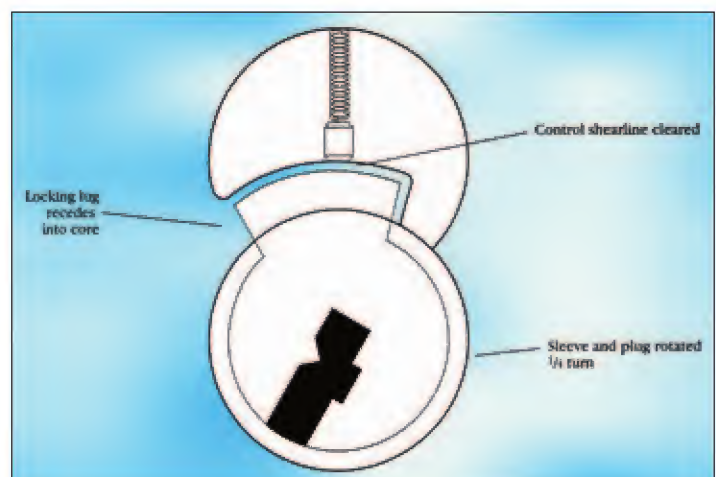
- *Locking Lug* - The portion of the sleeve, which is rotatable only by the Control key. It is the portion of the core that retains it in the lock.

- *Master Key* - The key that will operate a group of cylinders, each of which is operated by its own individual change key.

- *Operating Sheer Line* - The

area where the sleeve and the plug meet. Where all the pins must be level when the change key or master key is inserted in order to operate the core.

- *Pin Cells* - The holes within the shell the sleeve and the plug.



**B. The locking lug recedes into the core.**





1, the control key has been inserted into the core and turned clockwise one-quarter turn for removal. Now you may pull the core out. Once the core has been removed you can see how the locking lug recedes into the core. (See illustration B.)

Photograph 2, is the core and housing after it has been removed with the control key. Illustration C, is a cut away view of the lock and how the operating and control shear line stack up.

**2. The core and housing after it has been removed with the control key.**

- **Wafers** - The pins which are used as a master pin, control pin, and driver pin.

#### Basic Operation:

Illustration A, shows the basic operation and parts of the interchangeable core. The first thing you need to have before working on this lock a Control Key. In photograph

#### Picking the Core to Remove from Housing

Many times the control key is not available to remove the core and some other method must be used. The ideal way is to pick the core to the control shear line and retract the locking lug. The core can then be removed from the housing. This is easier said than done because of the two shear lines (control and Operating) that occur in a core. (See illustration D.)

To pick the core to the control shear line a special turning tool that was designed by the late Gerry Finch, is required because torque (turning pressure) must be applied to the sleeve only. A standard turning tool will only apply torque to the plug, which will bind the pins between the plug and the sleeve. The I-Core turning tool shown in photograph 3, will put turning pressure on the sleeve if used properly.

#### Keying the Lock:

The pins are inserted through the top of the lock one chamber at a time. All the pin numbers in the lock must add up to twenty-three in each chamber for proper operation. Photograph 4, shows a typical I-Core pin kit. This pin kit is used on the Falcon IC lock. It can also be used on the Best lock because all pins in that lock must add up to 23 as well.

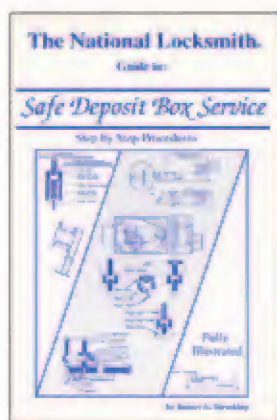
Next, I will give you a shortcut on how to key an interchangeable core.

1. Find the control key. I will use an example control key bitting of:

5 2 5 1 4 3

2. Add ten to each control key number.

## Safe Deposit Box Service

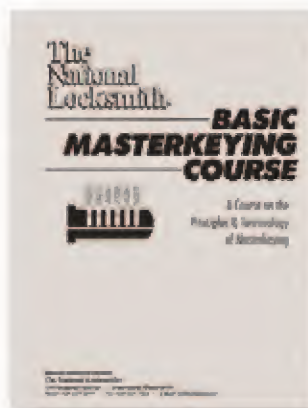


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#SDBS - 1

## Basic Masterkeying Course

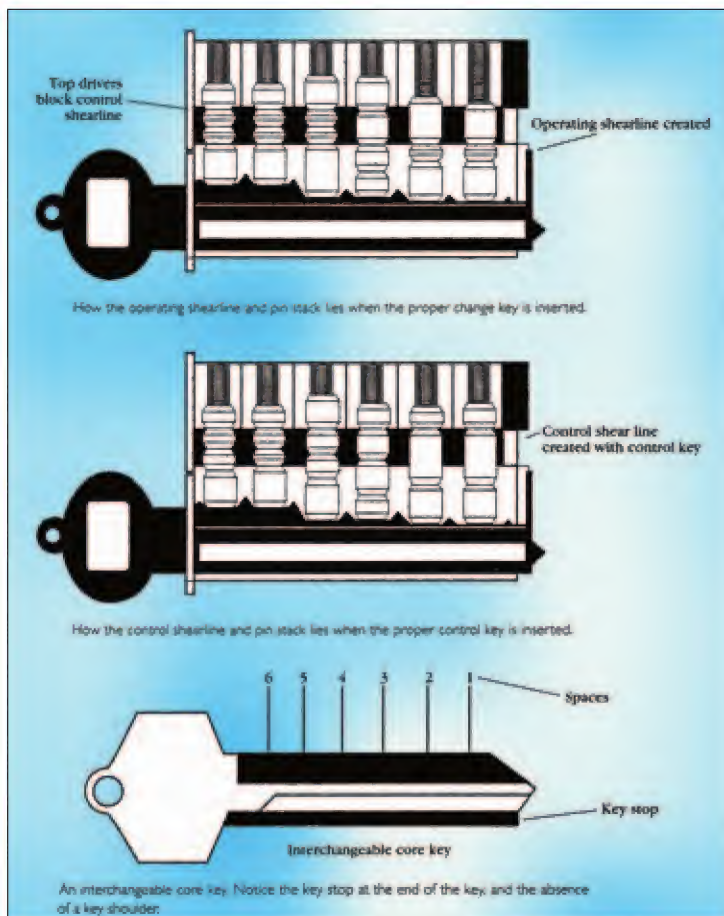


The Basic Masterkeying course is designed for the locksmith who wishes to become proficient in Basic Masterkeying.

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#MK - 1





**C. How the operating and control shear line stack up.**



**3. The I-Core turning tool.**

Control Key Bitting:

5	2	5	1	4	3
10	10	10	10	10	10
15	12	15	11	14	13

**3. Take the operating key bittings.**

I will use an example of:

7	4	3	2	1	3
---	---	---	---	---	---

**4. Subtract the operating key bittings from the sum of the control key bittings when 10 was added.**

15	12	15	11	14	13
----	----	----	----	----	----

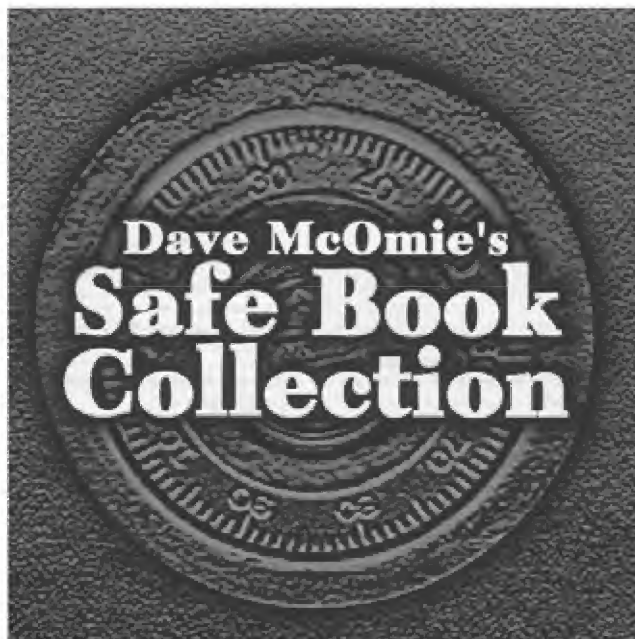
Operating Key Bittings:

7	4	3	2	1	3
---	---	---	---	---	---

8	8	12	9	13	10
---	---	----	---	----	----

8	8	12	9	13	10
---	---	----	---	----	----

is the build-up pin or control pins.



## **Dave McOmie Safe Book Collection on CD**

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#DMCD - 1





***D. Two shear lines (control and Operating) that occur in a core.***




Code numbers =

**E. Each pin chamber will add to 23.**

Control Pins:

23 23 23 23 23 23

(See illustration E.)

This is a brief overview of I-Core operation and pinning procedures. With IC locks becoming increasingly more popular, the more you can learn about these locks the better off you will be. 

Self-study • Car Opening • Key Cutting • Rekeying • Installation •  
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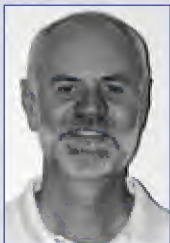
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# 1998 Suzuki Katana 600



by  
**John  
Blankenship**

**1**

The Suzuki Katana is a very popular sport bike and there are a lot of them on the road. There are no key codes anywhere on this motorcycle, although originating a key is not difficult.

To dispel any confusion that may arise regarding the number of tumblers used in these locks, this bike utilizes an eight cut ignition lock. However, when using the proper key blank, we only need to concern ourselves with the first seven cuts because the eighth cut is a precut. The ignition lock is the only lock that utilizes the eighth precut position. The gas cap, seat and helmet locks only use the first seven cuts and will be referred to as such when covering these locks. If the ignition lock needs to be picked or a substitute key blank is used that does not include the eighth position precut, all eight cuts will need to be accounted for. The eighth cut tumbler is a number 4 depth.

To originate a key, it is best to begin with the helmet lock.

## Helmet Lock



**2**

The helmet lock is located on the left side of the motorcycle above the passenger foot peg. Pick the lock clockwise 45-degrees to withdraw the locking bolt as shown in the photograph. This lock was easy to pick using a rake. You can now remove the T-30 tamper resistant Torx bolt that secures the lock to the frame.

**3**

The helmet lock is shown removed from the motorcycle. The number on the back of the lock is not the code. Remove the small Phillips screw that holds the backing plate to the lock housing.







- 5** The helmet lock contains wafer tumblers in spaces 1 through 5 out of a total of seven spaces. The wafers are all on one side of the plug. An X241 blank inserted into the plug shows the first five cuts are 24244. The key on top has been cut to operate this lock, but it still needs the last two spaces cut to operate the ignition and gas cap. There are several ways to determine the last two cuts:
1. Use key code software. A code number search revealed that there is only one code that uses cuts of 24244 in the first five spaces. The code is A6480 with cuts of 2424423. Cut the key by code and you have a key that will operate all the locks on the bike.
  2. Progression. Try all the combinations of cuts 1 to 4 in the last two spaces.
  3. Read the last two cuts in the gas cap and/or ignition lock.
  4. Impression the last two cuts in the gas cap and/or ignition lock.
  5. Disassemble the gas cap to obtain the last two cuts.
- Note: An X179 blank with the proper cuts will operate the gas cap, seat, and helmet locks but the grooves are not long enough to fully enter the ignition lock. An X241 blank is necessary to operate all four locks.

- 4** The backing plate is removed with the tailpiece also removed and placed on the right. The detent ball bearing is being held on the backing plate by grease. Place it on the detent spring in the tailpiece when reassembling. You can see the retaining wafer on the top side of the plug. Depress it and the plug slides out the front of the lock. Be careful, the wafers fall out easily.



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#SUB - 1,2,3,4,5,6

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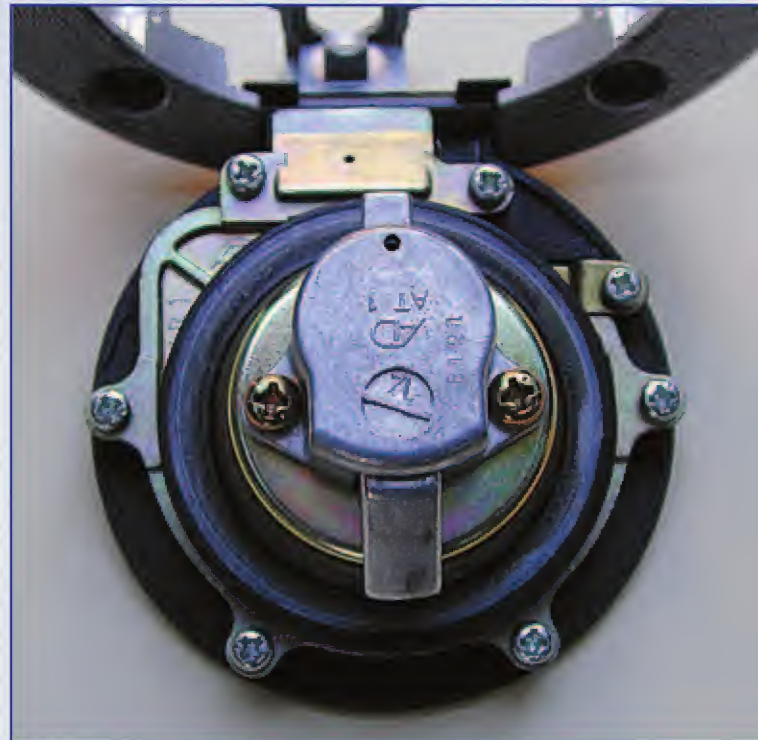


**6** The wafer tumblers and retainer from the helmet lock are shown. The wafers are thin so care should be taken when impressing. The retainer is open on the bottom to prevent pulling the retainer into the plug using a pick through the keyway. It is possible to use a sharp pick to bite into the side of the retainer and pull it into the plug for removal, but it is difficult. The retainer is  $27/32"$  (21.43mm) from the face of the plug. I was unable to determine a keying kit for this lock, although they are the same wafers that are used in the secondary locks on late model Yamaha's using the X248 blank. In fact, the spacing and depths are the same.

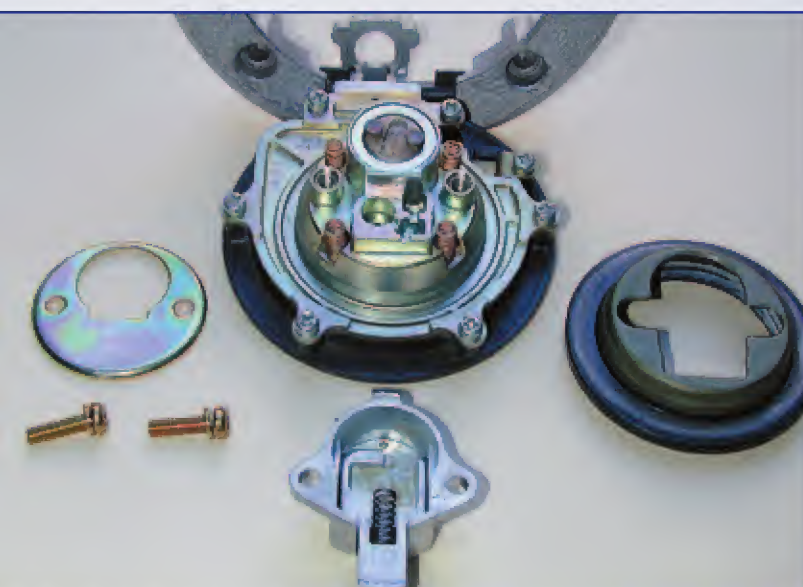
## Gas Cap



**7** The gas cap is also a good lock to disassemble to obtain five of the seven cuts or to find the last two cuts if you obtained the first five from the helmet lock. It is located on top of the gas tank between the seat and handlebars. This lock was easy to pick using a rake. Pick it 90-degrees clockwise against spring pressure. The lock is shown already picked and the spring has turned it back partway. Four of the hex bolts have been removed using a 3.5mm or 9/64 hex wrench. The other three hex bolts are just for show and do not have to be removed. You can now lift the gas cap assembly from the tank. Stuff a clean rag into the neck to prevent anything from falling into the tank.

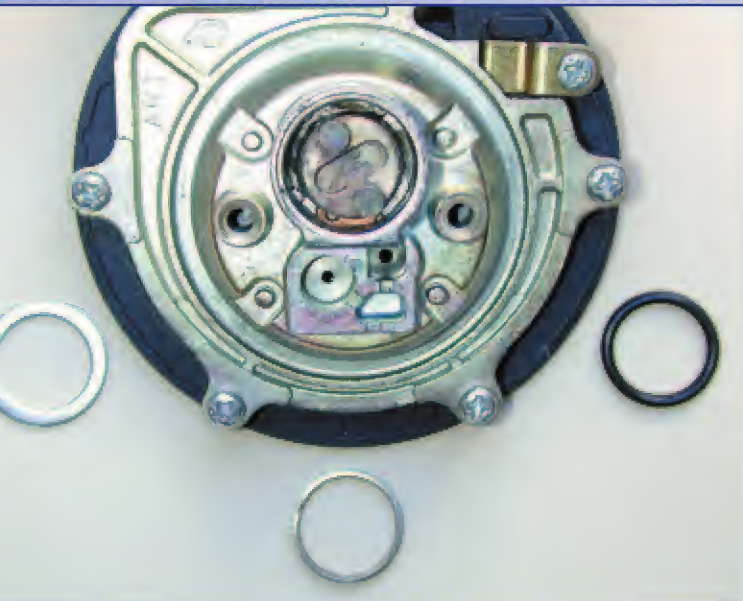


**8** Remove the two brass colored Phillips screws that hold the locking bolt housing to the bottom of the gas cap. The number stamped on it is not the code.



**9** The locking bolt housing along with the locking bolt and spring has been removed and placed on the bottom in photo-graph. Then the retaining plate was removed and placed on the left. Next the sealing plate was removed and placed on the right. Notice the four copper colored springs in the main housing. Remove and store them in a safe place.





**11** The gas cap contains wafer tumblers in spaces 3 through 7 out of a total of seven spaces. The wafers are all on one side of the plug. An X241 blank inserted into the plug shows the last five cuts are 24423. The key on top has been cut to operate this lock but it still needs the first two spaces cut in order to operate the rest of the locks. A code number search revealed that there are only two codes that use cuts 24423 in the last five spaces. They are A6252 with cuts of 2124423 and A6480 with cuts of 2424423. You can also progression, read, or impression the other three locks to obtain the first two cuts. You can also disassemble the helmet lock to obtain them.

**12** The wafer tumblers in the gas cap lock are the same type that are in the helmet lock, but the retaining wafer is different. The retaining wafer in this lock is also 27/32" from the face of the plug.



## Seat Lock

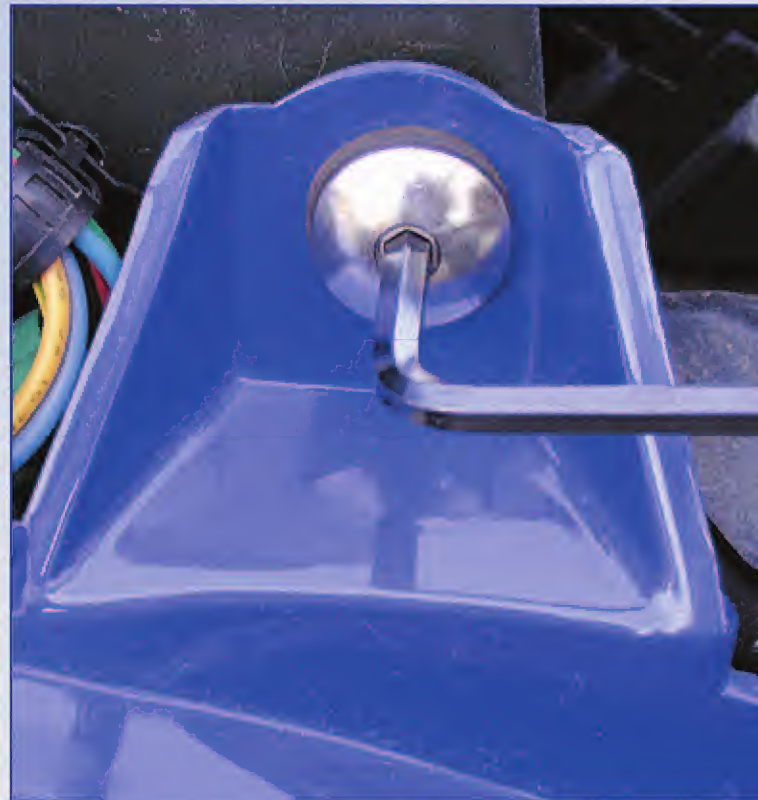


**13** The seat lock is located above the left rear turn signal. This lock has the least value in originating a key because it only has four tumblers and is time consuming to remove. The removal and disassembly procedure is covered in case you need to rekey, repair, or replace it. Turn the lock 45-degrees clockwise against spring pressure and pull up the back of the seat before you release it. Then just pull the seat back and off the motorcycle.

**14** Now that the seat is off the bike you need to remove the two 12mm bolts that hold the grab handle and rear fairing on and remove the grab handle. The 12mm socket is on one of the bolts and the other is visible on the other side of the bike. Then remove the two Phillips screws just forward of the bolts. The Phillips screwdriver is in one of the screws and the other is visible on the other side of the bike.



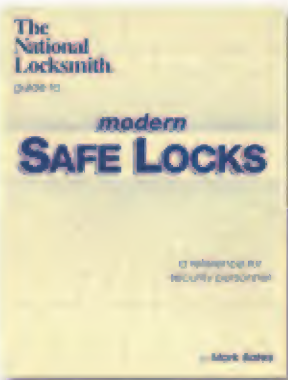




**15** Now you need to remove two Phillips screws under the rear fender that hold the rear fairing on. The screwdriver is shown removing the left one. The nut and washer shown in the photograph hold the left rear turn signal on and the electrical cable is easy to spot for a reference point. The second screw is located on the right side and is a mirror image of this photograph.

**16** Remove two 3.5mm (9/64) hex bolts from the rear of the front fairing where it overlaps the front of the rear fairing. The photograph shows the one on the left side of the motorcycle and the other one is on the right side.

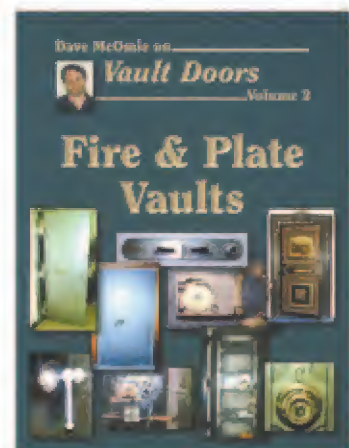
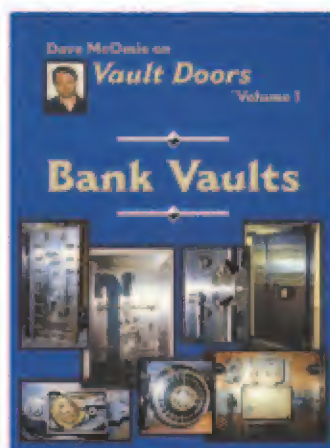
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#MSL - 1

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#VD - 1, VD - 2





**17** Pulling out on the sides of the front fairing will allow two tabs on the front of the rear fairing to slide out from their housings. The left one is shown looking down on it and the right one is on the other side of the motorcycle.



**18** A little further back and on the bottom of the rear fairing are two pop out tabs that need to be pulled out of their housings. The left one is shown looking down on it and the right one is on the other side of the motorcycle.



**19** The seat latch is located between the two 12mm bolts that secure the grab handle/rear fairing. The seat latch cable needs to be disconnected from the latch lever. Raise the end of the cable housing by popping the yellow plastic end out of its housing.



**20** Once the end of the cable housing is raised up, the cable can be slid around in a horizontal slot in the latch lever until it reaches a vertical slot. The photograph shows the cable in the vertical slot and it only has to be pulled up to free it from the latch lever. Make absolutely sure to connect this cable when reinstalling everything. If you put the seat back on without the cable connected you will probably have to destroy something to get the seat back off again.

Unplug the electrical cable that leads to the taillight and rear turn signals. It is located under the right side of the rear fairing. You need to push down the locking tab to unplug it. Now you can pull the rear fairing back and off the motorcycle.

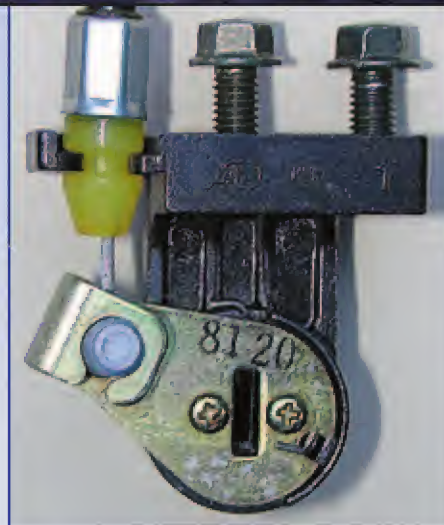
**21**







**22** The rear fairing is removed and the seat lock is accessible. Remove the two 7mm bolts and the seat lock can be removed from the fairing.



**23** You need to remove the two small Phillips screws that hold the tailpiece on. Notice the end of the return spring just below the right screw. The number on the tailpiece is not the code.



**24** The tail-piece and return spring have been removed. Pay attention to how the return spring connects to the housing and tailpiece as an aid when reassembling. Now the plug can be pushed out the front of the housing.

The seat lock contains four wafer tumblers in spaces 1 through 4 out of a total of seven spaces. They are all on one side of the plug. They are the same type wafers that are used in the gas cap and helmet locks.



## Locksmith Dispatcher 2000

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#DIS - 2000

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## Ignition/Steering Lock



**26** The ignition/steering lock is located on the front of the handlebars bracket between the gas tank and instrument panel. The lock is shown in the OFF position, which means the ignition is off and the steering is unlocked. To lock the steering turn the handlebars to the right or left, insert the key, push the plug in, and

turn it counterclockwise to the LOCK position. Turning it farther counterclockwise to the "P" position turns on the taillight so the bike can be seen when parked on the side of the road at night. The plug does not have to be pushed in to turn it from OFF to ON.



**28** A T-40 tamper resistant Torx bit is shown removing one of the two bolts that secure the ignition lock. I used extensions joined together to extend up through the fairing so that the ratchet was next to the front fender and had room to operate. Both bolts can be removed like this to avoid removing the front fairing.

After removing the two screws you can remove the face cap and the hardened face plate/dust shutter unit.

**30**



**27** This photograph shows the bottom of the ignition lock as seen looking up through the fairing from next to the front fender. The lock is secured by two T-40 tamper resistant Torx bolts. One of the bolts and half of the other one are visible. These bolts have to be removed to disassemble the ignition lock. You can also see a small shear head bolt and part of another that secure the ignition switch to the bottom of the lock housing. These bolts do not have to be removed.



**29** Remove the lock by pulling it down and out of its housing. It is connected to an electrical cable that runs back under the gas tank with no plug visible but it is not a problem. Just rest the lock on the side of the fairing facing up and remove the two Phillips screws that hold the face cap on.

The lock needs to be in the OFF position so that the lugs on the back of the plug will align with the grooves inside the housing. Then the plug can be pulled out the front as shown. There is a spring at the back of the plug that can be left in the housing as long as it is still centered and standing upright.

**31**








**32** The ignition lock contains eight wafer tumblers all on one side of the plug. The first seven tumblers are positioned by the cuts in the 7 spaces that we cut on the key. The pre-cut tip on the blank positions the eighth wafer. The code bittings also only contain seven cuts. A properly cut key in the plug positions all 8 tumblers at the shear line including the precut tip cut which is a number 4 depth. The original Suzuki key is shown on the top.




**33** All eight ignition lock wafers are shown. From left to right are wafer tumblers with depths of 2424423 and the wafer tumbler that is positioned by the pre-cut tip on the blank, which is a number 4. I was unable to determine a keying kit for this lock although they are the same wafers that are used in the ignition locks on late model Yamaha's using the X248 blank. The locks are available at Suzuki dealers.

## Basic Masterkeying Course



The Basic Masterkeying course is designed for the locksmith who wishes to become proficient in Basic Masterkeying.

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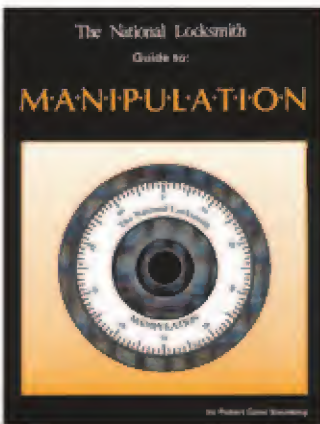
#MK - 1

**Lock Set Part Number:** 95071-33EN2  
**Price:** \$191.43  
**Ignition/Steering Part Number:** 37100-33E20  
**Price:** \$94.24  
**Gas Cap Part Number:** 44200-33870  
**Price:** \$116.32  
**Seat Part Number:** 95700-31840  
**Price:** \$44.24  
**Helmet Part Number:** 95700-44820  
**Price:** \$74.33  
**Spec Information**  
**Codes:** A6001-A7000  
**Key Blank:** Ilco X241 (SUZ18), Curtis SU18, Silca SZ14RAP  
**Spacing:** 1= .157 2= .256 3= .354 4= .453 5= .551 6= .650 7= .748  
**Depths:** 1= .295 2= .276 3= .256 4= .236  
**HPC Card Number:** CMC71  
**ITL Number:** 523  
**Curtis:** MZ-3 cam & SU-2A carriage

Tumbler Locations:	1 2 3 4 5 6 7 8
<b>Ignition:</b>	x x x x x x x x
<b>Gas Cap:</b>	x x x x x
<b>Seat:</b>	x x x x
<b>Helmet:</b>	x x x x x


TNL

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#MAN - 1



# TECHNITTIPS

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### 3rd Prize

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### 4th Prize

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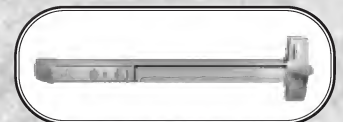
### 5th Prize

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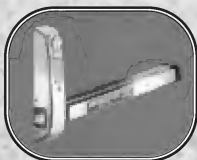
### 6th Prize

LaGard "SmartGard"



### 7th Prize

Detex Advantex



### 8th Prize

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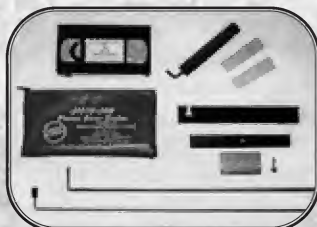
### 10th Prize

\$500 in ASP Auto Locks



### 11th Prize

\$500 in Strattec Auto Products



### 12th Prize

Tech-Train "Jiffy Jack"



### 13th Prize

Sargent & Greenleaf 6120  
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### 14th Prize

High Tech Tools  
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### 15th Prize

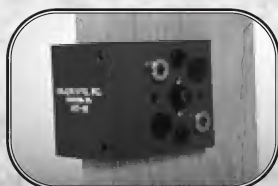
Slide Lock's Master "Z" Tool Set





**16th Prize**

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Code Books



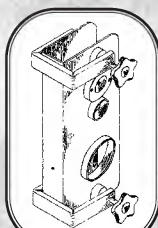
**21st Prize**

Sieveking Products  
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**22nd Prize**

Rodann's TX 500  
RX 5990 Wireless Door  
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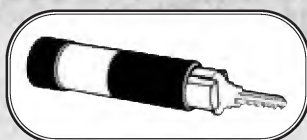
**23rd Prize**

A-1 Security Manufacturing  
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**25th Prize**

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1533 Burgundy Parkway, Streamwood,  
IL 60107-1861

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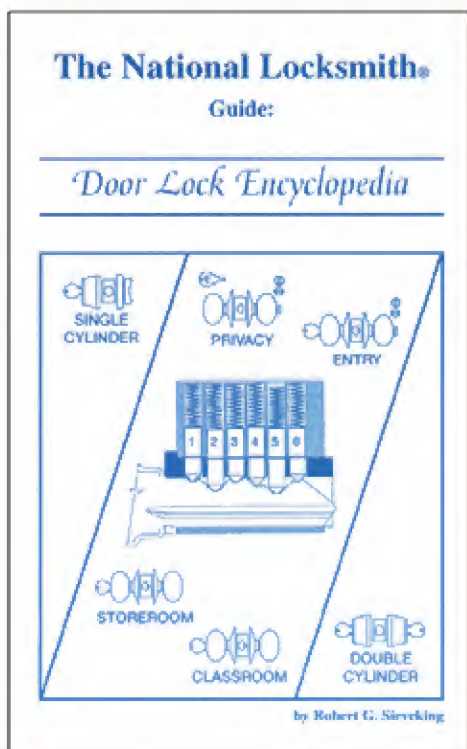








# Door Lock Encyclopedia



The ability to remove a lock from a door, disassemble the mechanism, and remove the lock cylinder for service is not always a simple straightforward task.

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#DLE

I noticed the house had a sliding glass door with a handle, but no keyed cylinder to pick. I decided to drill a small hole into the knockout position in the handle just large enough to put a small slotted screwdriver in the opening. I slipped the screwdriver into the slot where the tailpiece would have gone -had it been keyed- and turned the hook-bolt on the patio door to gain entry.

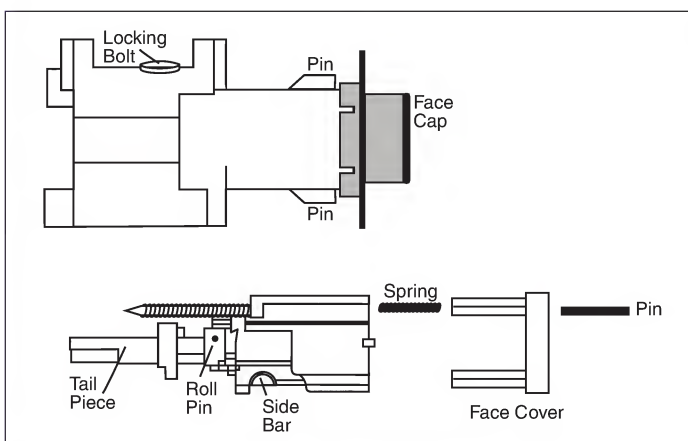
Temporarily, I put a small tamperproof screw into the hole until I could order a cylinder to fit that particular handle. *Charley Ward  
New York*



## STRATTEC WINNER: **Servicing Alpha Tech**

I have found a way to tear down, rekey and replace an Alpha Tech ignition in about an hour. I find this method better then laying out \$125.00 for a new ignition from the dealer.

First I break down and pull the steering wheel. Then I remove the two piece plastic shroud around the steering column. Next I remove the turn signal switch and flasher assemblies and press down the large spring and horn/turn signal deactivator; finally removing the electrical harness from the ignition.



**Illustration 2.**

Once I have everything out of the way, I take the two "star" bolts out and have exposed the switch to the point where I can break it down and service it. At this point I use my Dremel tool to grind the tops of the two roll pin off and drill a small hole next to the pins and pry them out like I would on a Nissan.

Then I gently pry the face cap off of the ignition (see illustration 2), push in on the locking bolt and pull the cylinder out. Then I grind the tailpiece in line with the roll pin shown and pull the pin out.

Looking at the illustration, you can see where I grind (or you can drill) to expose the sidebar, put pressure on it and pick the plug to the removal position. Now I can slide in an uncut blank, decode the wafers, make a key and then reassemble everything. *Mark Caudill  
Texas*



## SARGENT & GREENLEAF WINNER: **Impressioning Trick**

After reading Tom Lynch's article about using an ultra violet light to impression with, I decided to see if I could find something that would work well in daylight. After several tries, I found that the erasable felt pens that are used to write on bulletin boards make a dandy impressioning aid.

Just run the felt up and down the edge of the blank a couple of times to coat it well, insert it into the keyway and wiggle the blank around as you normally would. When you withdrawal the blank you can see where the ink has been erased by the pins.

When the pins won't remove any more ink, you've got your proper depth. I had some success with a regular felt pen, but the erasable kind worked better for me. I also found that it helps if you can prepare a blank in advance by cutting the first depth in all spaces with either your code machine or a file. *Jay Christie  
North Carolina*





**A-1 SECURITY PRODUCTS WINNER:**  
**Deadbolt Drill Guide**

When encountering a malfunctioning deadbolt, it sometimes becomes necessary to drill the lock to get it open. You can choose to drill the shear line or, you can drill for the mounting screws. The problem with drilling for the mounting screws (which allows you to remove the face of the lock and manipulate the bolt) is knowing where the screws are located.

**Illustration 3.**



I made some drill templates from the plastic caps of five gallon water bottles which are just the right size and are composed of a plastic that is easy to work with and yet is tough enough to carry around in my toolbox.

First, cut the top out of the cap as shown in *illustration 3*. Heat a key blank (a different one for each type of lock template you want to make) until the blank is hot enough to melt through the plastic. Now press the heated blank against the plastic in roughly the position of the keyway of the lock until the blank penetrates the plastic. When the blank is through, hold the blank and plastic under cold water to stop the melting process and then remove the key.

Next take the inside deadbolt cylinder and housing of the lock you're making the template for, insert the key blank and place it in the keyway of the lock. Now use an awl, scratch tool or felt pen to mark the position of the mounting screw holes and drill them out to the proper size.

To use the template, insert the proper key blank into the template, insert the blank into the keyway of the lock you have to drill and the holes indicate the location of the retaining or mounting screws!

I have made templates for Kwikset, Schlage and several other brands to expedite drilling when necessary.

*Ted Swirsky*  
*New Jersey*



**ILCO KEYBLANKS WINNER:**  
**Panic Bar Dogging Repair**

Here is a quick fix for the customer with an otherwise properly functioning panic device that has the HEX dogging bolt wallowed out making it impossible to dog the device to the open position.

Use a Dremel tool with a fiber cut-off wheel to cut a slot in the HEX bolt. If the bolt is recessed the customer can use a flat bladed screwdriver to dog the device down. If the HEX bolt is flush with the surface of the device, the customer can use a quarter to dog the device.

Obviously this trick is not apropos for every panic device repair, but can often save your customer money and make you look good.

*Pete Gamble*  
*North Carolina*



**KEEDEKX WINNER:**  
**Just In Case**

When servicing deadbolts I carry a few modified strike plates in my toolbox. They are plates that I have filed the hole about 1/32" to 3/32" larger than the factory specs call for.

That way, if I'm trying to repair a misaligned latch or my installation hole was slightly off, I can use one of these previously modified strike plates to compensate for minor alignment variations.

*Lowell King*  
*California*

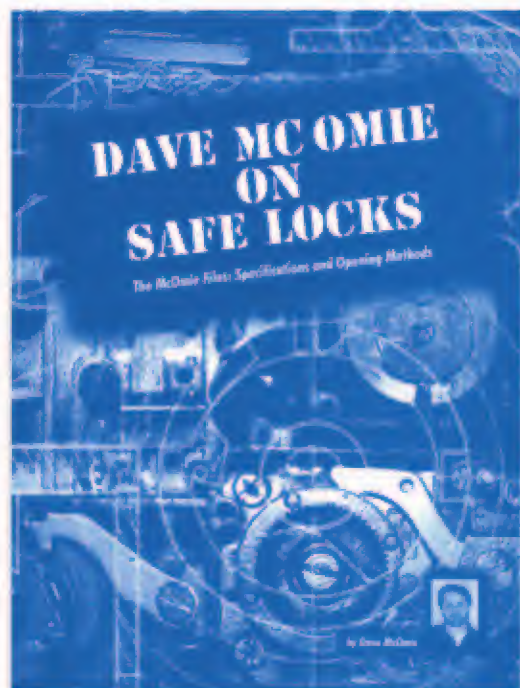


**TECH TRAIN TRAINING VIDEO WINNER:**  
**Leer Topper Lock Tip**

On numerous occasions I've had requests to make keys for the locks on Leer pickup toppers (or shells). The code numbers on the face of the locks generally run from between 901 and 950. However, the proper code for these keys cannot be found in any of the code books that I have.

I found that if you substitute the prefix "TM" to the number and

## Dave McOmie on Safe Locks



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#DMSL - 1



look the code up under "HURD" you will find the correct codes and blank numbers to generate a key.

*Sonny White  
Tennessee*

**Major** MANUFACTURING, INC. MAJOR MANUFACTURING

**PRODUCTS WINNER:  
Baldwin/Schlage Fix**

I tried to pick open a Baldwin Images knoblock to no avail. So I got out the drill and carefully drilled the plug to get the door open, figuring to replace the cylinder with a Schlage cylinder.

To my surprise, I found out that although the Baldwin used an SC1 blank, the cylinders were not identical and I did not have a Baldwin cylinder on my truck. I did have a Schlage five pin cylinder, but found that the retaining spring and pin was on the opposite side on the Schlage when compared to the Baldwin.

I used a 3/32" bit to drill a hole about 3/4" deep in the Schlage plug, at about the one o'clock position to match the Baldwin retainer. After which I pinned the Schlage plug and inserted it into the Baldwin cylinder. Then I found that the Schlage retaining cap would not fit over the original Baldwin tailpiece and spacer. It was too short. Scrounging around in my truck I found that an Arrow retaining cap would work.

The next problem I encountered was that the Schlage plug face was too large in diameter to seat properly in the Images knobset. I carefully ground the perimeter of the plug's face down to the point where the hybrid cylinder I had fabricated would seat properly in the knob.

This conversion is not the easiest one I've ever done, but it got me out of a jamb and the customer was happy.

*Joey Panico  
New York*



**SLIDELOCK'S "Z" TOOL  
OPENING SET WINNER:  
Pickin' on Contour**

I was called to open a 1998 Ford Contour. When I arrived the customer asked me not to use an under the window tool since a previous locksmith had broken his window while using the same tool.

I decided to try picking the lock and to my surprise, it picked in about five seconds! Since then, I have picked several Contours and have only had one that would not pick easily. Not only is it faster, but the customer is really impressed!

*Joan B Yarrington  
Texas*

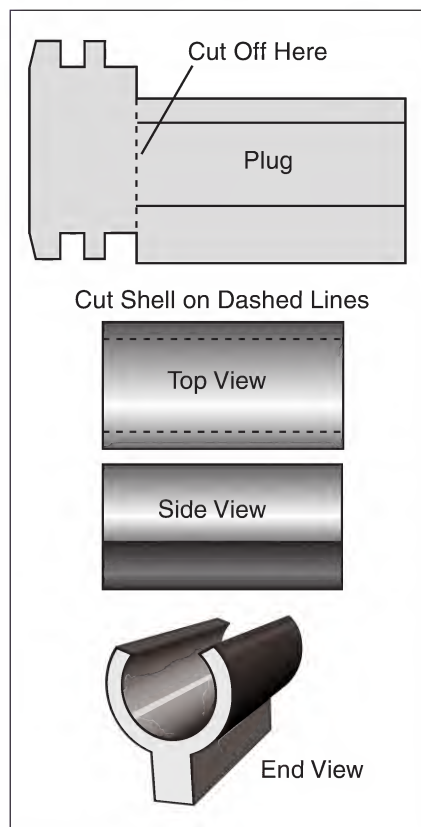
**Editor's Note:** Joan, thanks for the tip. The lock you picked was the old (1984-1/2) Ford ten-cut (Code series A-B-C-D-E). These Ford door locks generally picked very easily. For the readers that are unfamiliar with the technique, insert a tension wrench in the top

of the keyway (my personal favorite) on the driver's door and rake the wafers. Usually, the plug will turn to about the one-o'clock position and stop. Keep raking and the plug will spin the rest of the way to the unlocked position. The recommended opening tool is the under-the-window tool.



**THE SIEVEKING AUTO  
KEY GUIDE WINNER:  
Bommer Plug Holder  
from Chrysler Door  
Lock**

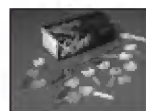
You can make a plug holder for Bommer Mail Box locks (or any lock that has a plug that measures approximately .388" in diameter) by using an old five pin Chrysler door lock cylinder.



**Illustration 4.**

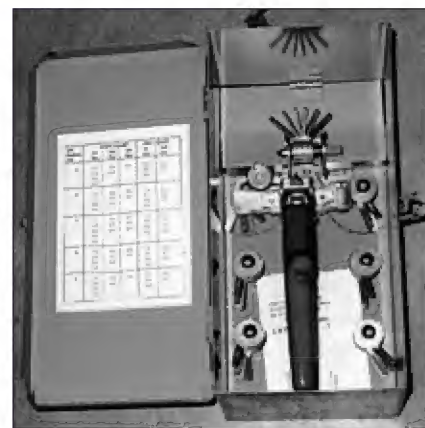
As shown in *illustration 4*, remove the Chrysler plug, cut off the front portion as shown in the illustration and then cut a slot in the bottom portion of the shell. You'll wind up having a piece that looks like the last drawing in the illustration. The bible, or upper pin chamber of the modified Chrysler cylinder will act as the leg of the plug holder and fit in you vise to steady the plug holder.

*Bill Tolento  
Connecticut*



**JET KEY BLANKS  
WINNER:  
Progression Aid**

While in a camera shop, I bought a product called a Soft Pocket by David B. Lytle Products. It is 2"x5" and has a magnetic back with a clear plastic front



**Photograph A.**

piece and is used to mount photographs on metallic surfaces.

My Curtis clipper case is metal and I used the Soft Pocket to mount a GM progression chart to the lid of the case as shown in *photograph A*. That keeps it handy for me when I have to progression a GM key. And the Soft Pocket keeps the chart clean and readable.

*John J. McColough  
New Hampshire*



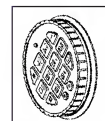
**HIGH TECH TOOLS  
WINNER:**

**How to Stabilize A Rim Cylinder**

Working with rim cylinder on metal doors I have had a recurring problem with the entire cylinder turning when someone used too much torque on the key. However, I have found a simple way to stop the cylinders from turning, no matter how much force the customer uses when turning the key.

With the cylinder installed on the door and after I have tightened the retaining screws as tightly as I wish too. I drilled an 1/8-inch hole at one of the top corners of the square rim cylinder retaining plate, and a second hole at one of the bottom corners. Then I insert roll pins (or you can use screws) in the holes. This stops the cylinder from turning no matter how much force is applied.

*Jess Tom  
Iowa*



**LAGARD WINNER:  
Broken Turn Signal  
Spring Repair**

While making a GM ignition key, how often have you found one or both of the turn signal canceling springs broken? It's money in the bank if you stock a few each of these thirty-eight cent springs. The part numbers are 1964784 and 1964785, respectively. The springs are "handed". One is for the right, and one is for the left.

It is an easy fix, requires no special tools or skills, takes just a few minutes and adds to your profits. The nice thing is that most customers will gladly pay extra to remedy the problem of their turn signals failing to cancel after making a turn.



*John Lee Wright  
Iowa*



# Introduction to Master Keying

## Selecting A Good Key

Part 4

### GOALS

Within every master key system there are keys that lend themselves to enhancing the security and operation of the system. Then there are those that tend to detract from the security and operation of the system.

The goal of this lesson is to lay out a few guidelines in determining which keys in a system serve as "good" keys and which serve as "bad" keys.

### TERMS

**Declining Step** - A key whose cuts successively progress from the shallow cut at the shoulder to the deepest cut near the tip.

**Multiplex Keyway** - A planned system of keyways that allows higher level keyways to enter more than one keyway in a given system.

**Sectional Keyway** - Same as Multiplex Keyway.

**Staircase** - Same as Declining Step.

With every master key system that is created, there are keys in that system that are considered good keys and keys that are considered bad keys.

Good keys offer not only a working key, but a key that protects the security and integrity of the system.

Bad keys, on the other hand, while they may be used, risk both the security of the system and the operation of the lock.

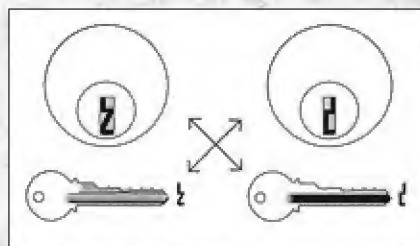
While some of the following guidelines may be obvious, they must

be followed to prevent problems before the system is installed.

In order for two, or more, different keys to operate a lock, it is necessary that the keys have certain traits in common with each other, and certain traits that differ from each other. Without this, master keying cannot be done, or cannot be done without interchange.

What must the keys in the system have in common? First and foremost, they must have the same keyway, or be a part of a specially designed keyway system called a

Multiplex Keyway or a Sectional Keyway system where there is a planned system of keyways that allows higher level keyways to enter more than one keyway in a given system.



**1. The first obstacle a key must pass in any system is being able to fit the keyway.**

Obviously, a key that can't be put into a lock cannot be used as a key for that lock. (See illustration 1.)

Next, all the keys must be cut using the same space and depth specifications. If a number one cut has a root depth of .333" for one key, it

cannot easily be keyed into a system with another key using .320" for its number one depth.

Manufacturers often use varying sets of specifications for different keying systems. Corbin/Russwin, for example, use not only a set of biting specifications that are their standard, but also use a set of specifications called "System 70." You must be certain, therefore, that the keys being used are all cut using the same specifications.

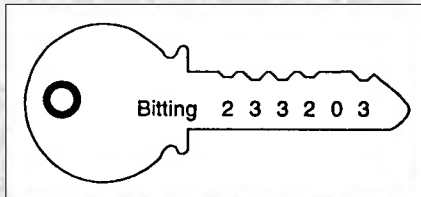
Next, there must be a similarity or a pattern in the biting from one key to the next. How must the keys be different? If two keys are similar to each other, but differ from each other by only one increment in one position, and if that increment is small, it may be possible for them to operate each other's locks. This is especially true where the tumblers are negatively locked. Simple manipulation or jiggling of the key can move the bottom pins up to the shearline.

It is important that all the keys in the system be different from each other by a fairly good difference in at least one space or cut, and preferably more than one. For most locks on the market, a .023" difference is enough, although .028" is preferred.

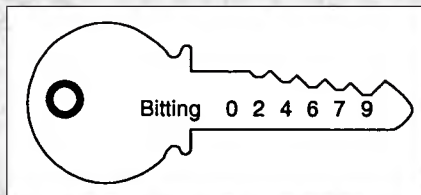
Aside from the common and differing traits separate keys must have, there are also traits that determine whether a particular key should be used for master keying.

A good key does not have all its cuts at roughly the same depth.

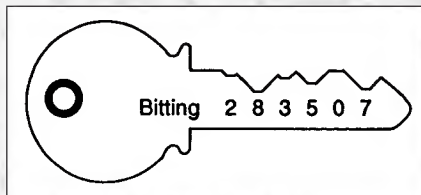




2. A key with all of its cuts at the same, or close to the same, depth is not a good key. This type of keying makes manipulating the lock easy, often defeating the security for which the lock is installed.



3. The declining step pattern of this key is also not recommended.



4. The varying high and low depths of the key create a good combination of cuts for a key.

This creates a straight key.  
(See illustration 2.)

A key that gets progressively deeper toward the tip of the key, called a Declining Step or Staircase key, is not considered a good pattern of cuts. (See illustration 3.)

A good key has varying shallow cuts and deep cuts. (See illustration 4.)

### SUMMARY

There are just a few guidelines that determine a good key.

All keys in a master key system must have the same keyway, must be cut to the same specifications, have varying deep and shallow cuts, and are least .023" different in at least one space from any other key in the system.

A bad or unacceptable key has depths that are close or the same, or progress down the key in a declining step pattern.

Material presented is excerpted from the "Basic Master Keying Course," a course on the principles and terminology of master keying published by The National Locksmith.

TNL

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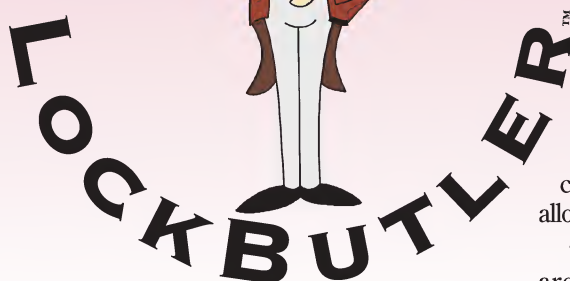
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## COMPUTERIZED INFORMATION

BY DON DENNIS, CPL



Slowly but surely the locksmith is acquiring the ability to have a mobile office right along with their mobile business. The laptop computer is what is making the office application possible. It is allowing us to produce office documents such as billings, word documents and even Internet connections right from our vehicles. The laptop allows us to access code materials, create and store master key systems with the cut and biting information and even manipulating the cutting of our keys through complex key machines. We are even keeping our inventory current with the laptop's capabilities. Now with the advent of a new software program called the LockButler™, by SBD Inc., you will be able to have on our laptop display a vast array of catalogue information and the ability to compose, supply orders and bid proposals.

The LockButler™ program information is comprised of

manufacturer's catalogues. It is inclusive of not only the lock information as given by the manufacturer, but the part breakdown information as well. You will have complete control over searching out this information. The program will sort and search out the information that you wish to find by manufacturer. The program will likewise sort and search out information dealing with types of locks or by a lock function. You may want to know about only locks that are made by a particular manufacturer that are of a certain function. The program will give you this information and then allow you to further check out other parameters of the choices.

I will use the Unican 1000 for our test example. Looking at *illustration 1*, you can see what the LockButler computer screen

### 1. THE LOCKBUTLER OPENING SCREEN SHOT.

looks like. The line of information is similar to what is found with any Windows friendly program. When clicked they will result in menus allowing selections of program functions.

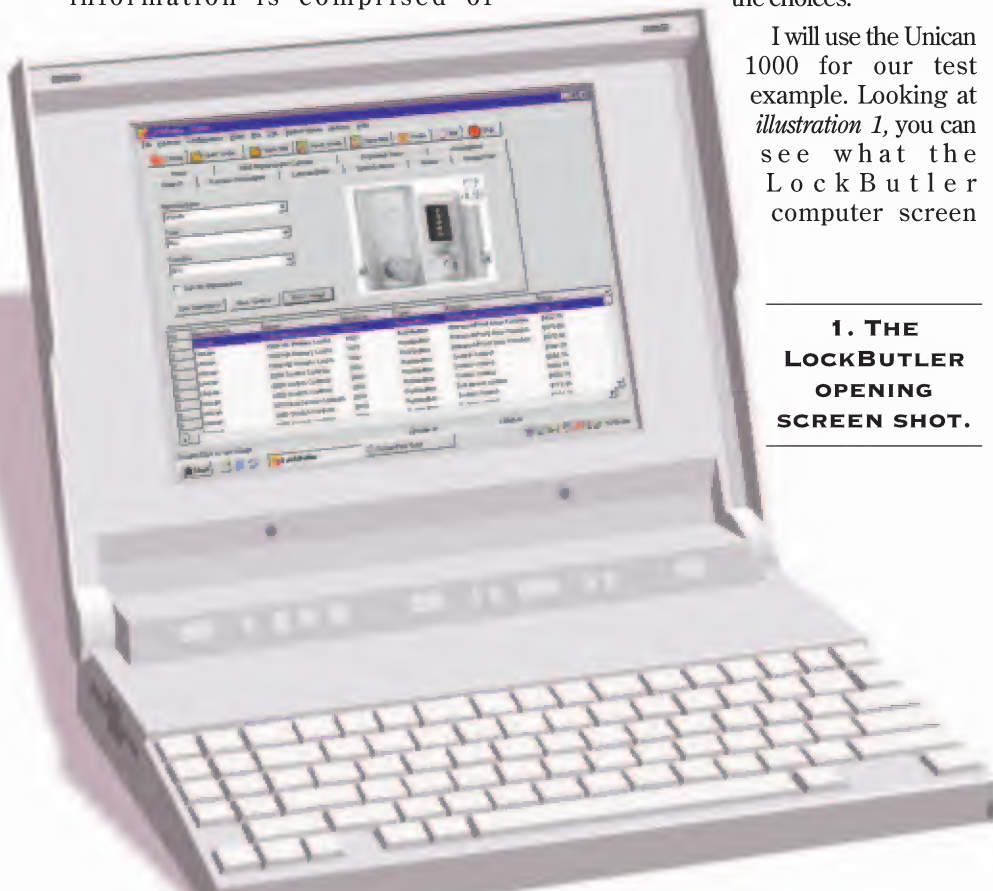
The next line of information and icons are for shortcuts that take into consideration the ordering and bidding concerns. Below these two rows are ten file folders. Each of these folders provide a different function concerning the lock that you have chosen.

We start with a search of three parameters that deal with the Lock Manufacturer, the Type of lock (mortise, etc.), and the lock's Function (entry, etc.). In our search the Manufacturer selected was Unican. The Type and the Function boxes were left with the word "All". "All" is the program's default setting. Once the three boxes have the parameters, you would click on the box that says "Use Selections." The search resulted in all of the Unican products listed in the legend grid that is at the bottom of the screen shown in *illustration 1*. The number "53" appears at the top of the first column of the grid. That tells us that there are 53 different choices of Unican locks to choose from.

The first line of information crossing the grid is highlighted selecting the 1011 model. Once you have clicked on the model you want, click the box that says "Show Image" and a picture of the lock will appear. From this point it is a matter of selecting the file tab of the folder you wish to review.

Let me start the folder review by talking for a moment of the folders that do not have an image with this article. These are folders that are somewhat self-explanatory.

- The "Specifications" folder will give you a breakdown of the lock requirements for mounting. Such things as door thickness, backset, projection from door surface, edge bore and more are given.
- The "Function Description" folder is just that. It tells you how the lock functions.





- The "Annotations" folder will give you special idiosyncrasies that concern the lock in review. For the Unican 1011 it tells of the ANSI and DOD parameters that are met and other things like the latch and handing are field reversible.
- The "OEM Replacement Cylinder" folder will give you cylinder applications.
- The "Strike" folder gives strike options
- The "Design/Trim" folder gives options and add-ons that are available from the manufacturer.

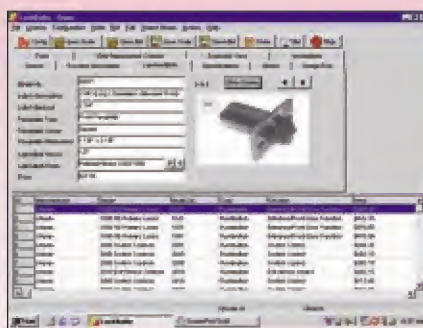
Now let's talk about the images that do accompany this article. Illustration 1, is that of the initial search and the selected lock is the Unican 1011. *Illustration 2*, is of the folder "Latches/Bolts." You can see in the image that there are four selection of latches that come with the proper ordering of the 1011 and the program gives you the details of each one as well as a picture.

*Illustration 3*, is the "Parts" folder which shows a knob return spring with its part number and manufacturer's suggested list price. Also note that this spring is just one of 179 part choices.

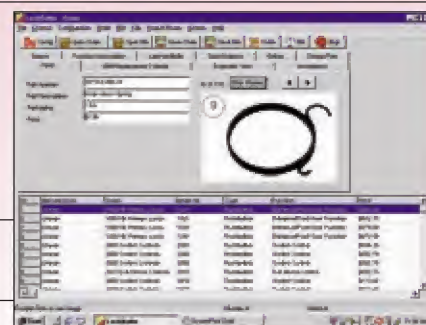
*Illustration 4*, is of the "Exploded View" folder. There are two images on the screen. The image on the left is an overall exploded view while the image on the right is a close-up view that can be scrolled. By double clicking on the close-up button a view such as that in *illustration 5*, will appear. This is a "View Utility" picture that enhances the overall view. It is most helpful when there are a lot of parts crowded into a small picture. It helps you to be certain of finding the part you want without making any mistakes. Once you have found the part diagram number, you can scroll up or down the legend depicting the parts in the Exploded View folder and highlight the part you want. Once highlighted it can be added to your order if the part is all that you need.

**T**here is some system requirements that are needed in your laptop or other PC computer system to accommodate the LockButler™ programming. LockButler™ requires the following system capabilities:

- Pentium II, 133 MHz CPU (this CPU or higher will offer the best performance)
- 32 MB RAM (less RAM may work but performance will suffer)
- Hard Disk with at least 20MB RAM available
- CD ROM drive capable of understanding Win 32-bit file names
- Video Card capable of at least 800x600 pixels with 24-bit or better color palette
- Windows™ 95, 98, or NT operating system



**2. A SCREEN SHOT OF THE "LATCHES/BOLTS" FOLDER WITH FOUR SELECTIONS OF LATCHES THAT COMES WITH DETAILS OF EACH ONE AS WELL AS A PICTURE.**



**3. THE "PARTS" FOLDER, WHICH SHOWS A KNOB, RETURN SPRING.**

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#ICSF - 1



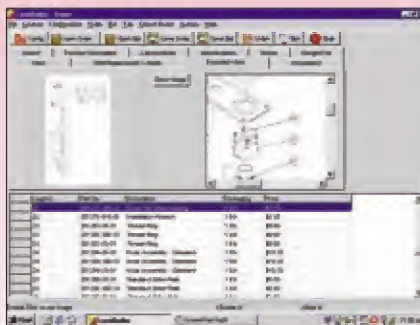
As with any operational computer equipment, more is generally better. If you had a hard drive that had an additional 200MB of space that could be used to store lock images or a machine that had a higher CPU speed with more RAM, it would be beneficial. Just as a 40x CD-ROM has a better speed function than an 8x CD-ROM, so a higher resolution screen with a 32-bit color scheme is a better performer than a 24-bit. While these traits are not required, they will enhance performance making your business efforts easier and more enjoyable.

It is very important to realize that the LockButler™ product is an on going endeavor. Actually, as long as locks and businesses are changing and growing the LockButler™ program will be forever changing and growing. Currently there are fifteen manufacturers that have given their material to the program. Please realize that this is a program that is supported by manufacturers. If the manufacturer is not represented then they have decided not to participate at this time. As time goes by it is hoped that they will all want to participate. It is a program that we all will benefit from! The locksmith will have the most current information at their fingertips, while the manufacturer will be saving cost and expense in the support of their product. Needless to say that the boys of SBD, INC., who produce the LockButler™ product, will be making advances for their cause as well. It is one of those few win-win scenarios for everyone involved.

The current manufacturer's list is as follows: Adams Rite, Arrow, Baldwin, Detex, Falcon, Kwikset, Lori/Ico, Marks, PDQ, S. Parker, Sargent, Schlage, Unican, Weiser, and Weslock. So far this is the extent of the manufacturers that are participating in the residential and commercial door lock modules. There are several new modules that are being planned. These include safes, padlocks, door closer, cam locks, exit devices, high security, and automotive. I am certain that there will be more modules getting onto the drawing board since there are still other areas such as tools that could be covered.

Besides these modules that cover the aspects of locks and the manufacturers, there are two other areas involved with this program that are of great interest. The first is the ability to setup an order for the items that you are looking for. Once the item you want has been found you open an order by clicking on the icon that says "Open Order." Once this is done you want to be certain to highlight the item

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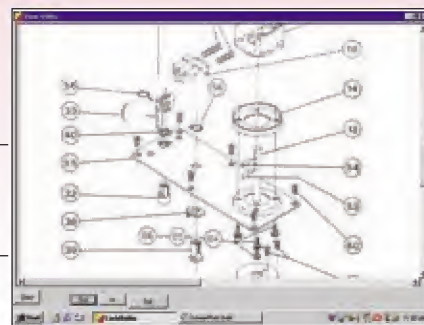
**5. THIS IS A "VIEW UTILITY" PICTURE THAT ENHANCES THE OVERALL VIEW.**

you want on your order printout in the grid legend at the lower part of the screen. Click the icon button that has the grocery cart and the word "Order" and the highlighted item from the legend will be placed on the order sheet. The order, once all of the items have been located for the job, can then be printed out and placed by phone to your favorite distributor. You can also save the order to your hard drive by clicking on the icon at the top of the page that says "Save Order." Once you click this, a box will appear and allow you to save the order to a location with a particular title for easy retrieval in the future. I would think that somewhere in the future there would be a capability to actually place your order online directly to the distributor in the distributors required format.

**T**he second area of interest is in the bid applications. This application allows the user to produce a bid sheet that would be acceptable to any customer for the work that needs to be accomplished. The program will save you the time of inputting all of the pertinent lock information and still allow you to customize the report by using a small built-in word processing program. The word processor allows you to add the customer's name, address, and terms while still allowing you to input or alter pricing to meet your needs.

Updating your program can be done in a couple of different ways. First, you can obtain an update through the Internet. You can log on and go to [www.lockbutler.com](http://www.lockbutler.com) to obtain the latest information and updates for your system. The new information and images will then be loaded to your hard drive, but don't worry about using up your hard

**4. THE "EXPLODED VIEW" FOLDER. THERE ARE TWO IMAGES ON THE SCREEN. THE IMAGE ON THE LEFT IS AN OVERALL EXPLODED VIEW WHILE THE IMAGE ON THE RIGHT IS A CLOSE-UP VIEW THAT CAN BE SCROLLED.**



drive space. Every three to six months (depending on the number of updates that are coming out) you will receive a CD-ROM with the updates included. This CD-ROM will not only have the newest information, but it will remove the duplicated data from your hard drive automatically so as not to cause any redundancy and thereby saving hard drive data space.

SBD, Inc. has several ways of paying for their product. Since it is an on-going effort resulting in required updates and since it is forever growing, it means that a simple purchase is not really possible. The method that has been chosen due to the nature of the product is to charge a monthly fee for the services. While this even varies due to the number of computer sites involved, a locksmith with a single computer will pay \$49.95 each month for the service. This cost pays for everything. There are no further fees for the updates or shipping or anything else. Simply a single monthly fee of \$49.95 will cover all of the costs. There is not even a long-term commitment required!

SBD, Inc. has taken on an incredible task in dealing with the information of the locksmith industry. While it is an on going endeavor, it is an endeavor that will bring the world of locksmithing closer together. It will give the industry a more compact and readily available way of looking at itself. While all of this is happening, it will give us all monetary savings as well as a saving in our time and other resources. Should you not be able to go on-line to make your request to LockButler™ then call them at their toll-free number 1-877-772-3471. Circle 285 on Rapid Reply. **TNL**



# Quick Entry

## UPDATE

by  
Steve  
Young



### 2000 BUICK LeSABRE

**F**or the 2000 model year, GM has decided to use three different manufacturers for their lock systems: Strattec, Huf & Ortech. Most of us are familiar with the Strattec locks and Huf locks that have been in use on the Saturn and on the Buick Park Avenue since 1997. Ortech, however, is a new name for most of us.

For this year, Ortech manufactures the locks for only two vehicles: the Buick LeSabre (see photograph 1) and the Pontiac Bonneville. Whether or not they will supply locks to other vehicles in the future remains to be seen. The Bonneville and the LeSabre have totally different ignition locks. The Bonneville uses a dash-mounted ignition and the LeSabre has a column-mounted ignition that looks identical to the standard CSS column from the outside.

Once the ignition lock has been removed from the column though, it is obviously a whole new ball game. The Ortech ignition is a true double-sided sidebar lock with tumblers on both sides of the keyway. All of the internal parts of the lock such as the tumblers, sidebar, and spring retainers are very different than those made by Strattec and Huf. Parts for these locks can be ordered through the GM system, but Auto Security Products (ASP) has recently introduced a parts kit for the Ortech locks. The ASP part number is: A-41-104. This kit will be a necessity if you plan to do much work on these locks.

Like many of the 2000 model year vehicles that I have looked at so far, the LeSabre has a triple layer of weather-stripping at the base of the window glass. This will present



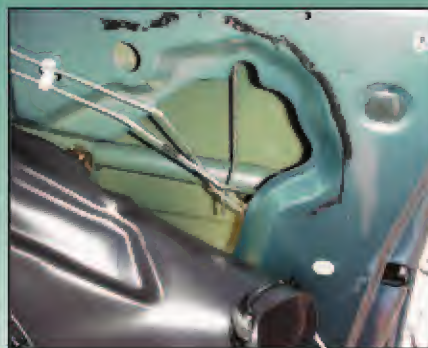
1. 2000 Buick LeSabre.



2. The TT-1015 tool is inserted at the forward edge of the rear door.



3. Insert the short end of the TT-1003 tool.



4. The inside lock control linkage is the rod closest to the outside of the door.



5. Lever the linkage rod forward to unlock the door.

problems when you attempt to wedge open a gap to insert your tool. All too often, as you try to insert your wedge, the lower layers of the weather-stripping will roll under the wedge making the window fit tighter than before. If you use too much pressure

on the wedge it would be quite easy to tear the weather-stripping as well.

To prevent these problems I use a small plastic card. The card that I use is made from the thick plastic sheet-lifter that is located at the front of my car-opening manual. The plastic card



is inserted between the glass and the weather-stripping before the wedge. The wedge is then inserted between the plastic card and the glass so that the plastic card will hold all three layers of the weather-stripping back as you insert the wedge. Once the tip of the wedge is below the weather-stripping the plastic card is removed. I also use the same plastic card to help the tool to slide into the door cavity.

To unlock this vehicle, we will be using the TT-1003 opening tool. (See illustration A.) Begin by wedging open a gap directly above the forward edge of the outside door handle. (See photograph 2.) Carefully insert the short end of the TT-1003 tool into the door (see photograph 3) and then rotate the tip of the tool toward the inside of the car. Slowly lower the tool into the door until you feel it contact the inside lock control linkage. The lock control linkage is easy to locate by feel since it extends further into the door cavity than the handle linkage. (See photograph 4).

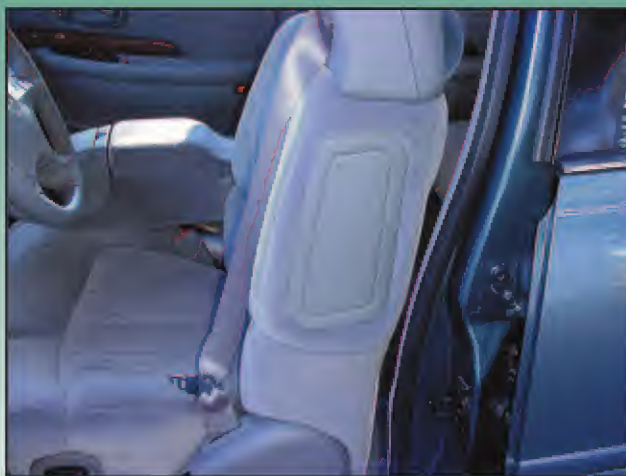
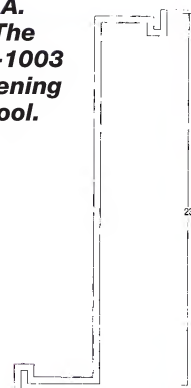
Once the tool is hooked onto the linkage rod, twist the handle of the tool to bind the linkage and then lever the linkage rod forward to unlock the car. (See photograph 5). An inspection light can be used to help locate the linkage rod if you wish.

The 2000 Buick LeSabre is equipped with side-impact airbags for the front seat passengers as standard equipment. These airbags are mounted into the seat back so that there is no danger of damaging the

#### Quick Reference Guide

<p><b>Vehicle:</b> 2000 Buick LeSabre</p> <p><b>Direction Of Turn:</b> Counter-Clockwise</p> <p><b>Tool:</b> TT-1003 (short end)</p> <p><b>Lock System:</b> 10-Cut GIM sidebar ignition and plate-tumbler (wafer) style door locks.</p> <p><b>Security System:</b> PassKey III (Transponder)</p> <p><b>Side-Impact Airbags:</b> Seat-back mounted, front seat only.</p>	<p><b>Lock Manufacturer:</b> Ortech</p> <p><b>Code Series:</b> O5000 - O6999 (note: 1st character is an "O", not a zero.)</p> <p><b>Bitting:</b> Ignition 1 - 9, Door &amp; Trunk 4 - 10, Glove Box 6 - 10</p> <p><b>Key Blank:</b> Iico B99-PT5, Jet B99-PHT</p>
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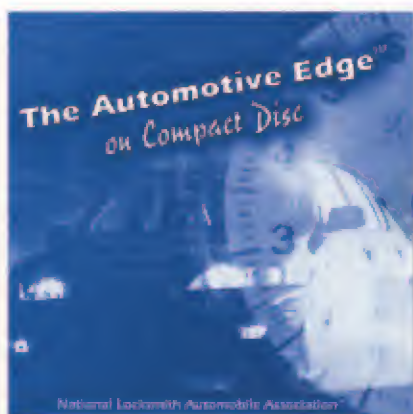
**A.  
The  
TT-1003  
opening  
tool.**



**6. The side-impact airbag is mounted in the seat back, not in the door.**

airbag or airbag wiring with a car-opening tool inserted into the door. (See photograph 6.)

The LeSabre can also be unlocked with the Jiffy-Jak Vehicle Entry System. **TNL**



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#AE - CD



# New Frontier

## Still learning after all these years



by  
**Dale W. Libby, CMS**

**A** little learning is a dangerous thing. Too much learning or information can also lead to trouble. Unfortunately, the above two sentences are all to true as I learned another lesson in safecracking 101. You are never too old to learn!

What do I mean about having too much information? When I started safecracking, there was little information available to me or other safemen and women. Everything was still secret for the most part. Today, there are many sources for safecracking information and books, including Me, Carl Cloud, Dave McOmie, Harold Wills, Ed Willis, Bob Sieveking, Mike Oehlert, Mark Bates, and many other notable sources.

Safecrackers of today have a wealth of information available. Although I like to think of my career spanning the "Old" days as well as the electronic age, there is no lack of pictures and measurements available for modern day work.

In my day, I had to think and only used books as a back up, not as a primary source. I do the same with car opening. I think about it first, and if I run into trouble, I go to source material to give me a better chance of success. Here is how I ran into trouble, and from this you will avoid the same problem that I did.

The safe in question was at a theater and was a Frontier gun safe with the handle and dial located in the center of the door. (See photograph 1.)

The handle was below the dial. This is a popular configuration of dial and handle on gun safes and usually means that the combination lock bolt and the lock body is mounted in the Vertical Down (VD) position.

Bolt work differs somewhat, but the usual configuration is to have a round cam plate with a notch for the bolt cut into it. The locking bolts or

bars will attach to this round plate in such a way that when the handle turns, the bolts will withdraw. There are several variances of the method of turning and withdrawing the bolts, but they are basically the same.

If the handle and the bolt are not located in the center of the door, or if the door is narrow, then a horizontal bolt bar attachment is indicated. O.K.,



**1. Frontier Gun Safe configuration. Dial above handle in center of door.**



onto the Frontier Gun Safe in question.

**W**ith the customers' input, I diagnosed the problem beyond the fact that the safe will not open. In this particular scenario, the combination lock worked properly, but the handle only moved from 6:00 o'clock to 7:00 o'clock after the dial stopped moving. The handle was supposed to move to about 8:00 o'clock. Had to be an external relocking device that was keeping the safe from being opened.

I pulling out my Dave McOmie book on fire safes, I found the page with the relocker shown for that model of safe. The page showed a "flapper" type relocker about even with the end of the combination bolt. It was held in place by a lower spring. To open, just raise the relocking bar and turn the handle.

I drilled the door about 4.5 inches from the edge and inserted my borescope to look for that specific location of the relocker. It was not there!

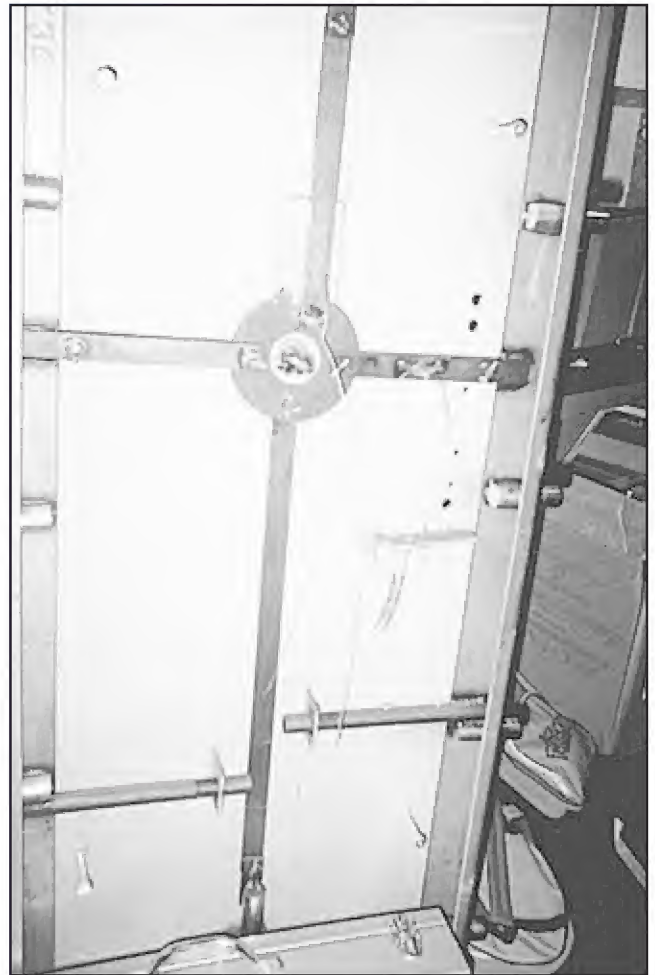
I drilled another hole through this soft 3/8 inch steel door that let me view the edge of the opening side bolt bar about 1 inch lower, and saw the primary bolt bar (as could be seen in the book photograph) but again, nothing of the relocker. I could not have missed it, I had drilled two perfect holes and with either of them I should have seen the relocker. I was momentarily stumped.

Now I did something I rarely do. With the help of Little Tommy at his office, I was given the name and phone number of Frontier Safe, and

the name of the man to talk to. I just wanted to ask him a few simple questions. I received his answer in an indirect way, while he was bragging about his safe, not from any help he could offer me.

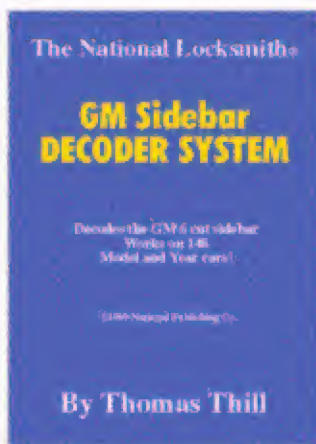
First, he said that I had to prove who I was, and he could not give me any information over the phone. Next, I had to prove that I was not a crook and breaking into a safe. He stated that he had to cover his behind. Next, he told me to look for the serial number, and he could help me. The safe was built into the wall, and since the number in question only appears on the back upper left corner of the unit (when looking at the safe from the front of the unit) I could not supply him any information, including who sold the safe originally.

I was aggravated by his lack of help and understanding the customers situation, not to mention mine. I said to him that all I wanted to



**2. Door relocked. Relocker bolt bar 12 inches below dial hub and to the right in the picture.**

know was the approximate position of the relocker, for the information I had was wrong. That set him off. He stated that without the serial number, he could not tell me the



## GM Sidebar Lock Decoder System

Tom Thill, the author of a new book, has invented an amazing new way to make keys for six cut GM Sidebar Locks.

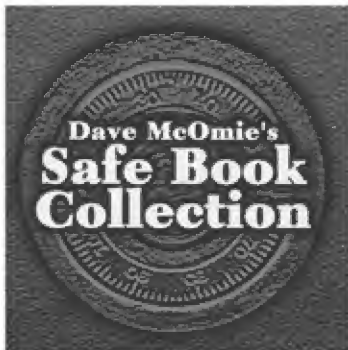
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#TT - 1



## Dave McOmie Safe Book Collection on CD

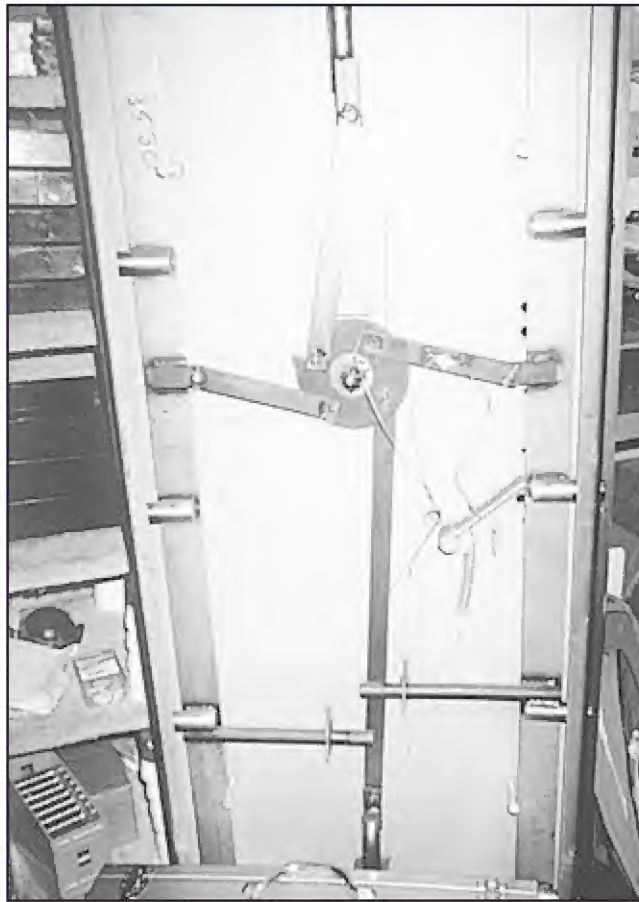


This CD contains every  
book Dave has  
ever published.

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#DMCD - 1



3. Bolts withdrawn,  
relocker raised up,  
cable hanging over  
pulley.

position of the randomly placed relocker bar, and it would take me hours and hours to locate the lever by drilling. He hung up.

Hmmmm. Random location of the relocker. Dave's book does not mention random locations for the relocker bar and spring. Now I had the information I needed, the secret concept as it were. The relocker was randomly located, Aha.

**I**nstead of taking me hours to locate the relocker, it took mere minutes and several holes. In Dave's book it shows the relocker hitting the rear of an opening bolt. In the safe I opened, it just hit the opening bar. Here are the highlights.

*Photograph 2*, shows the open door with the relock bar in position against the edge of the bolt-carrying bar. It is about 12-inches down from the horizontal bolt bar that moves the opening side of the bolts in. There is a spring below it attached to a tack welded 3/8-inch nut. Hard to see in this picture because the door is locked open.

*Photograph 3*, is a picture of the door with the relock bar raised allowing the bolts to retract. Also the wire cable used to hold the relocker in the open position are shown. There are two facts

that cannot be easily seen in the picture. First, there is a pulley assembly attached to the bolt bar in the 3 o'clock position, welded into place. There is also about 4-feet of small steel stranded cable looped over the bar.

The cable had frayed in the middle and split through metal fatigue. I am still not sure how the cable frayed, but I have a theory.

The cable was under spring pressure from the relocker. The end of the cable attached to the lock was in a slot in the corner of the lock case cover. The combination lock was very loosely attached to the door by this time, and in fact, one case screw had come out completely. I feel that when the lock case loosened, it caused the cable to rub on a pivot point which over time, due to the customer slamming the door, caused the cable to break. Either that or the bolts somehow abraded the cable over time.

So, in conclusion, when opening safes, do not take any new information necessarily as gospel. Some safes and money chests, and even gun safes do have randomly placed relockers.

Open, drill and look, and prosper.





# The **WIGHTER** Side

Always Greener.



by  
**Sara  
Probasco**

Maybe it was just the fact things had been kind of dull around the store that week that made the incident seem so interesting. It was an unusually warm spring day, even for southwest Texas. We'd had the usual key-cutting and simple lock sales and repairs, a service call now and then, a few car openings - nothing out of the ordinary. Then this call came in right at closing time.

A fellow had lost keys to his pick-up truck out on his ranch a few days before and had been unable to locate a spare set. Now he wanted us to come out and make a set for him. Nothing seemed unusual there either. Keith took the call.

"There was his pick-up. It had been sitting in the middle of the field in the glaring sun with the windows up, all this time. I'll bet it was a hundred degrees in there, even at five thirty in the afternoon." Keith told the other guys the following day in their usual early morning story-swapping session at our store. "The guy must have been hauling grass seed and a bunch of it got loose in the car, or something. All I know is, all this green stuff had sprouted and was growing everywhere."

"Inside the truck?" Rickie asked.

"Right. From the cracks in the seat, the floorboard, everywhere."

"Talk about your 'greenhouse effect'!" Rickie muttered as he envisioned the scene.

"No joke! What I really needed was a pair of gardener's shears to even get to the ignition."

"Come on, Keith, quit exaggerating," Don chimed in.

"No, I swear," Keith replied. "You should have seen it."

"You know, now that you mention it, I remember something like that happening back when I was in school," Rickie injected.

"I didn't know you went to school,"

Keith quipped.

Rickie ignored him. "I'd almost forgotten about that little incident."

Keith wouldn't let it go. "You know what they say about people having memory problems as they get older. How long, since you were in school, Rick? Twenty years? Thirty? Can you remember back that far?" Keith jabbed Rickie playfully on the arm and grinned.

Undaunted, Rickie continued with his story. "There was this guy who was a genuine slob. Never cleaned out his car. I mean, never! It was a real mess - old Coke bottles, candy wrappers, crumpled up report cards, all that stuff - and the dirt was knee deep. I don't remember him ever sweeping it out in all the time I knew him. Nobody would ride with him, even on a dare.

"Well, one day we had a rain," Rickie continued.

"The only time you can remember it raining, right?" Keith persisted.

Rickie glanced at Keith with malice in his eyes, but didn't miss a lick. "Naturally, El Stupo had forgotten to roll one of his windows all the way up. A couple of days later somebody looked inside and noticed all this green stuff growing up from the cracks of the seat. We never did figure out exactly what it was, 'cause nobody really wanted to get close enough to check it out, but something had obviously taken root in all that dirt."

"Probably sesame seeds from an old hamburger," Harold said, laughing.

"A very old hamburger," Keith said.

Rickie shrugged. "Who knows!"

"Reminds me of an old episode of Twilight Zone, where vines took over the house," I offered from the safety of my office.

"Yeah, or one of those TV commercials for that allergy relief stuff," Keith said.

"Nothing a good dose of weed killer wouldn't fix," Don muttered. "Okay, everybody, back to work!"

Keith didn't tell us right then about a personal experience involving an old Blazer he used to keep just for hunting. Apparently, it, too, had "sprouted," following an unusually wet fall in Uvalde County, Texas. I overheard him chatting about it with a customer, later in the day.

To hear Keith tell it, he had been trekking through tall grass and underbrush for days in pursuit of a prize buck, as deer hunters will do. Repeatedly stomping through mud and grass, he had managed to drag a considerable amount of topsoil onto the floorboard and seat of his vehicle. Once the fun was over, he parked the Blazer for a couple of weeks before finally getting around to cleaning up the mess.

"I knew I shouldn't let it sit there with all that mud and grass in it," he sheepishly admitted as he told about the experience, "but, well, you know





how it is - I just never seemed to get around to it. I guess I must have picked up a lot of wild grass seed on my clothes that got deposited there, too. All I know is, it wound up greener inside my Blazer than it was in my yard. I couldn't believe it." Keith glanced up from the key machine at his customer. "You ever had anything like that happen?"

"Naw. I lived most of my life in Arizona. We never had problems like that out there," the customer stated. His expression was somber. "All we ever had out there was cactus and Gila monsters," he muttered. "Not much to brag about, I guess." Then his face lit up. "But I can tell you, folks out there grow a lot of green stuff in unusual places. 'Course they don't talk about it much - especially not when the law's hanging around, if you know what I mean." The man winked at Keith.

"Yeah, I do know what you mean. I used to be a cop, myself."

"No kidding!"

"Yeah. I remember one time I had to drive an impounded vehicle in, and I would have sworn the guy we picked up was growing marijuana in the back seat. There was so much trash back there, anything might have been growing in it. Anyhow, the smell was so strong I got high, even with the windows down."

"Speaking of trash in the back," Don said when the customer had left, "when you finish up there, how about grabbing the broom and giving it a waltz around the stock room. There are a couple of trash cans that need emptying, too. And then you can start getting things straightened up in the service vans."

While Don and I were closing up shop that evening, he chuckled.

"Well, at least one thing was accomplished with all that hullabaloo about things sprouting in accumulated dirt," he said.

"What's that?" I asked.

His eyes twinkled. "Did you notice all the vehicles have been miraculously washed and vacuumed, for a change? I think I even detected the aroma of weed killer in Keith's service van."

"I guess they all want to be sure the grass is greener in someone else's van."

TRN

## High Security Safes Volumes 1 & 2



These are the world's toughest safes! Contains many FULL PAGE photos! Learn to open High Security Safes now!

Volume 2 is packed with great information and photos of high security safes. Included are many opening tips designed to make your life easier.



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#HSS, HSS - 1

March 2000 • 115



# THRU THE KEYHOLE

## *A Peek at Movers & Shakers in the Industry*

### ATTENTION MANUFACTURERS AND DISTRIBUTORS:

Would you like your company and products to be profiled in *Thru The Keyhole*? Please call Editor, Greg Mango, at (630) 837-2044.

### **STI Goes To Extremes**

How do you protect a manual pull station when it's -50°F (-45°C)? Or keep it working in a hose-down area of a chicken processing plant? Or be able to use a strobe unit in a cereal plant with the danger of explosion? Or even be able to see one when it's covered with frost? These are typical of the problems Safety Technology International, Inc. of Waterford Michigan is facing and solving these days. STI makes and markets "The Stopper( Line)" of products to help stop false fire alarms, vandalism and theft of fire protection equipment.

Working with the University of Alaska, STI engineers are reporting success in conquering a whole new class of environmental nightmares—from prolonged, bitter cold to soggy sites that make London look downright pleasant to the salt-water hazards of life on a Pacific Ocean oil rig. As well as using fire protection devices safely amid the explosive power of dust particles found in breakfast cereal plants and sawmills.

What is evolving is a whole new family of STI protective covers that can be grouped in five different configurations, as described by Vic Humm, PE Fire Protection Engineer of Red Bank, Tennessee who is working with STI engineers on what they call "Project Deep Freeze".

Note: Products used in these covers are passing the standard Underwriters Laboratories, Inc. (UL) outdoor rating testing, commonly referred to as corrosion exposure and freezing weather elements. Currently, one manufacturer has accomplished this with Configuration Numbers 1 and 2 and the Underwriters Laboratories listing is for ADA UL 1971 Notification Appliances with an Indoor/Outdoor rating.

Configuration 1 is a horn/strobe/speaker cover, which has slots for sound emission but still offers

protection against vandalism and some weather resistance. Since the slots are located on the lower portion, there is a screen drain to eliminate accumulation of moisture. Applications for No. 1 include use on parking decks and outside areas of enclosed open air sections for the lodging industry, such as pools and areas for recreation and outside dining.

No. 2 is the gasketed STI Strobe cover. It is recommended for use outside when the temperature is +32°F (0°C) or warmer. As No. 1 it also has a drain to allow venting to help prevent condensation from forming on the inside and obstructing viewing.

This configuration can be used in wet areas for shower changing, light wash down areas and in final food preparation for kitchens, etc. where driving rain cannot damage the strobe unit. Another good example is around marine applications to prevent salt-water corrosion. It can also be used in clean rooms to prevent damage from dispersing fine particles if a strobe ruptures.

Configuration 3 takes a giant step toward solving the problem of Arctic cold. It has the same shape as No. 2 except there are two conduit entries to the enclosure. One is for the notification appliance signaling 24 VDC. The other is for the 110 VAC to

operate strip heaters, which are 50 watts apiece. The strip heaters are currently UL listed and the controlling thermostat has been cycle tested for 100,000 cycles at 15 amps and 125 VAC.


From Labor Day to Memorial Day, these heaters were in use on the Arctic Circle.

Configuration 3 has a wide range of applications in the food industry to outdoor use such as notifying personnel of immediate danger in areas such as coal conveying for power generating plants.

Battling water is the role of Configuration 4, which is the same gasketed version as No. 3, but with no drain. This is referred to as a NEMA 4 Heavy Hose Down. It is required to withstand a one-inch diameter hose stream at a minimum of 55 pounds-per-square-inch discharging at a distance of 12 feet. Applications for No. 4 include heavy wash down areas such as slaughter facilities and waste operations, which require 180°F (82°C) water and strong disinfectants.

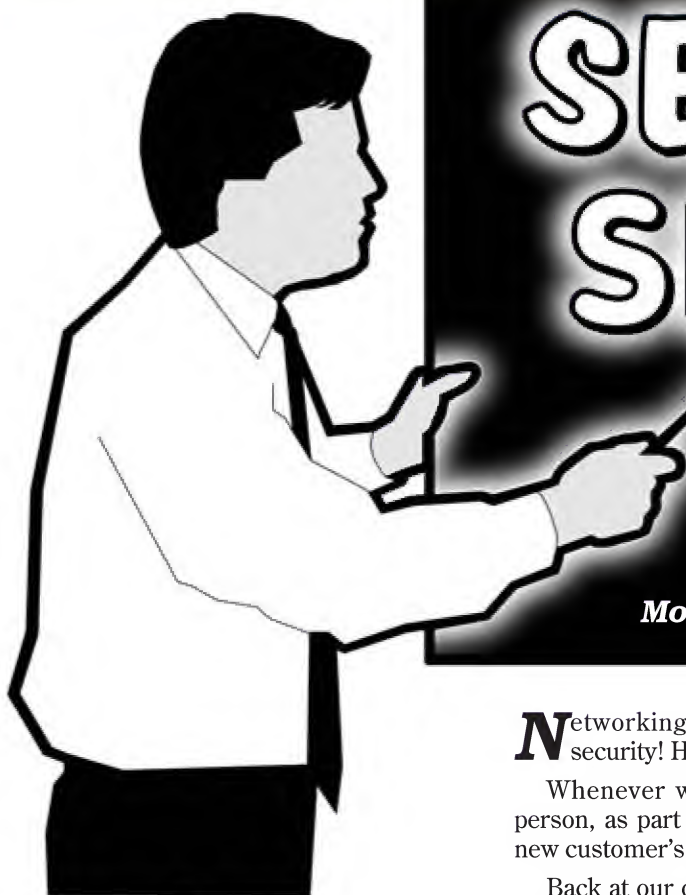
No. 5 is being designed to have an electrical hazardous rating of Class II, Div. 2...referred to as "dust tight". The difference between No. 4 & 5 is not in the units themselves but in the manner in which they are installed as it relates to the electrical conduits and their fittings.

This most demanding configuration is slated for such areas as cereal plants, the grain milling industry and wood processing (saw mills) where the danger of dust explosions is high.

For more information on these and similar products, call STI toll-free (800) 888-4784, Fax (248) 673-1246 or write STI, 2306 Airport Road, Waterford, MI 48327-1209. STI's E-mail address is [info@sti-usa.com](mailto:info@sti-usa.com) and its website is [www.sti-usa.com](http://www.sti-usa.com). Circle #286 on the Rapid Reply Card. 



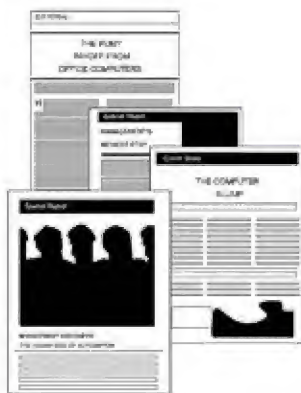




# SELLING SECURITY

by Ted Tate

*More ideas for working with insurance agents*



**N**etworking with insurance agents! What a lead source for people selling security! Here are some more solid, moneymaking ideas.

Whenever we sold a residential or commercial security system, the sales person, as part of their job description, was required to fill out a form listing the new customer's insurance agent's name and address.


Back at our office the sales person would call the agent and ask for a brief, five-minute appointment to "drop-off" the information. If the agent said to mail it, the sales person would say something such as "Gee, I'd love to but there is a couple of things I need to ask first. We can handle this a lot quicker if I can just drop by. If I'm there more than five minutes it's going to be because you asked me to be. Would 3:00 p.m. today be OK or sometime tomorrow morning be better?"

On the visit, besides trying to get our customer any possible discounts we would:

1. Ask for names of any other insured he/she felt could benefit from our security services.
2. If their company has a newsletter to clients, we'd give the editor some valuable security tips in exchange for a mention of our company's free security survey.
3. See if their client's got an insurance rate "break" for our system. If so, we'd see if the agent would, as a service, send his clients a letter introducing us. If they resisted we'd offer to do the labor of the mailing and even pay the postage. If they looked like they had a good client list, we'd offer to also include their flyer in our monthly billing mail.
4. Get the names of other agents in his/her office so we could introduce ourselves.
5. Offer a free security survey of their premises plus a discount to insurance people for their personal use.

We sold lots of insurance agents just by this personal contact. I was always amazed most of our competitors failed to do this on any regular basis. I was told by many agents they were impressed by our follow through for our clients.

**Good luck and good selling!**

*Ted Tate was in the alarm industry nearly eighteen years. He now presents in-house business training programs and is a nationally known trainer and author. For additional free selling tips visit his web site: [www.trainingexpert.com](http://www.trainingexpert.com) *



# KEY CODES

## Yamaha Code Series 7001-8000

The HPC 1200CMB and 1200PCH code cards for this code series are between pages 126-129.

**Manufacturer:** Yamaha  
**Code Series:** 7001-8000

**Key Blanks:**

**Boerkey:** 1479

**CEA:** YMH32S

**Errebi:** YA31R

**Iico:** YH31R

**Iico EZ:** YH31R

**JMA:** YAMA21L

**Kraga:** J361

**Lotus:** YM61

**Orion:** YM39L

**RR:** YMA54

**Silca:** YH31R

**Number of Cuts:** 6

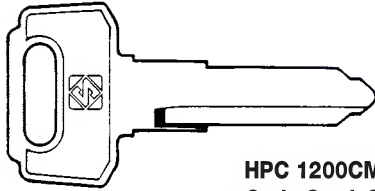
**M.A.C.S.:** 2

**Key Gauged:** Shoulder

**Center of First Cut:** .157

**Cut to Cut Spacings:** .098

**Cut Depth Increments:** .020



### Spacings:

1 - .157

2 - .256

3 - .354

4 - .453

5 - .551

6 - .650

### Depths:

1 = .295

2 = .276

3 = .256

4 = .236

### HPC 1200CMB

**Code Card:** CMC80

**Jaw:** A

**Cutter:** CW1011

**Gauge From:** Shoulder

### HPC 1200PCH (Punch):

**PCH Card:** PMC80L

**Punch:** PCH1011

**Jaw:** A

**Silca UnoCode**

**Card Number:** 198

**HPC CodeMax**

**DSD #:** 450

**Jaw:** A

**Cutter:** CW1011

### Curtis No. 15 Code Cutter:

**Cam-Set:** DC-1

**Carriage:** SU-1C

**Framon #2:**

**Cuts Start at:** .157

**Spacing:** .098

**Block #:** 3

**Depth Increments:** .020

**Cutter:** FC10045

**Key Clamping Info:** Use flip-up shoulder stop.

**A-1 Pack-A-Punch**

**Quick Change Kit:**

**Punch:** N/A

**Die:** N/A

**ITL 9000 & 950**

**Manufacturer ID:** 496

## Safe Opening Volumes 1-5



These are the classic safe books you will need to open most any safe easily and professionally.

- Volume 1 - Modern Safes
- Volume 2 - Modern Safes
- Volume 3 - Antique Safes
- Volume 4 - Antique Safes
- Volume 5 - Very Recent Safes

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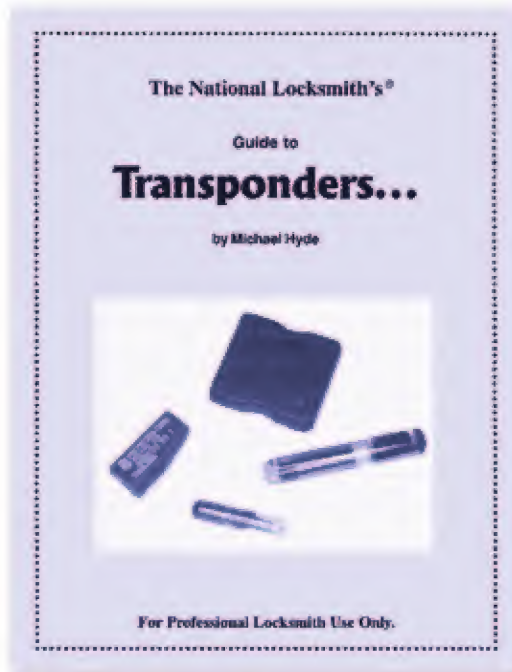


#SO - 1, SO - 2, SO - 3, SO - 4, SO - 5



7001	232112	7081	244124	7161	342134	7181	433142	7201	143144	7221	432211	7241	144213
7002	234112	7082	312124	7162	344134	7182	442142	7202	213144	7222	434211	7242	212213
7003	243112	7083	314124	7163	412134	7183	133143	7203	233144	7223	443211	7243	214213
7004	322112	7084	321124	7164	432134	7184	142143	7204	242144	7224	143212	7244	221213
7005	324112	7085	323124	7165	434134	7185	212143	7205	312144	7225	213212	7245	223213
7006	342112	7086	332124	7166	441134	7186	221143	7206	321144	7226	231212	7246	232213
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## TNL's Guide to Transponders



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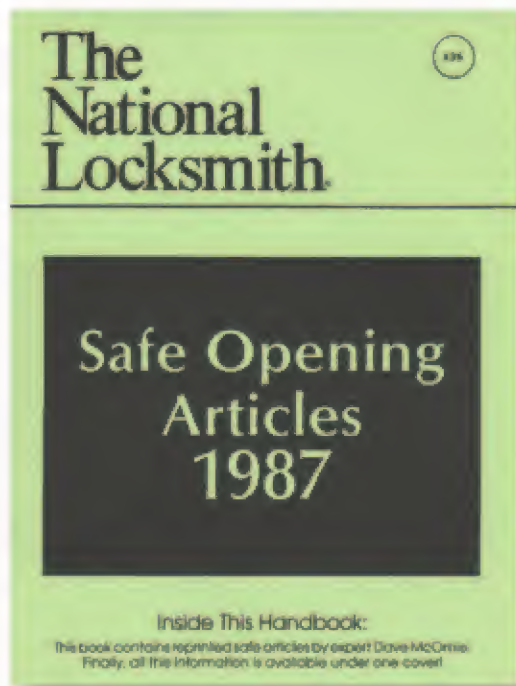
#TS - 2001



## Yamaha Code Series 7001-8000

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## Safe Opening Articles 1987



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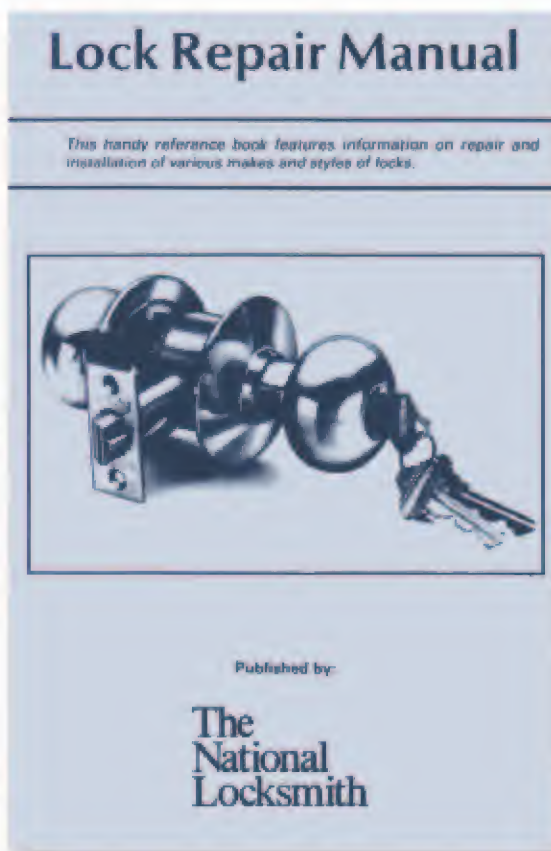
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# Lock Repair Manual



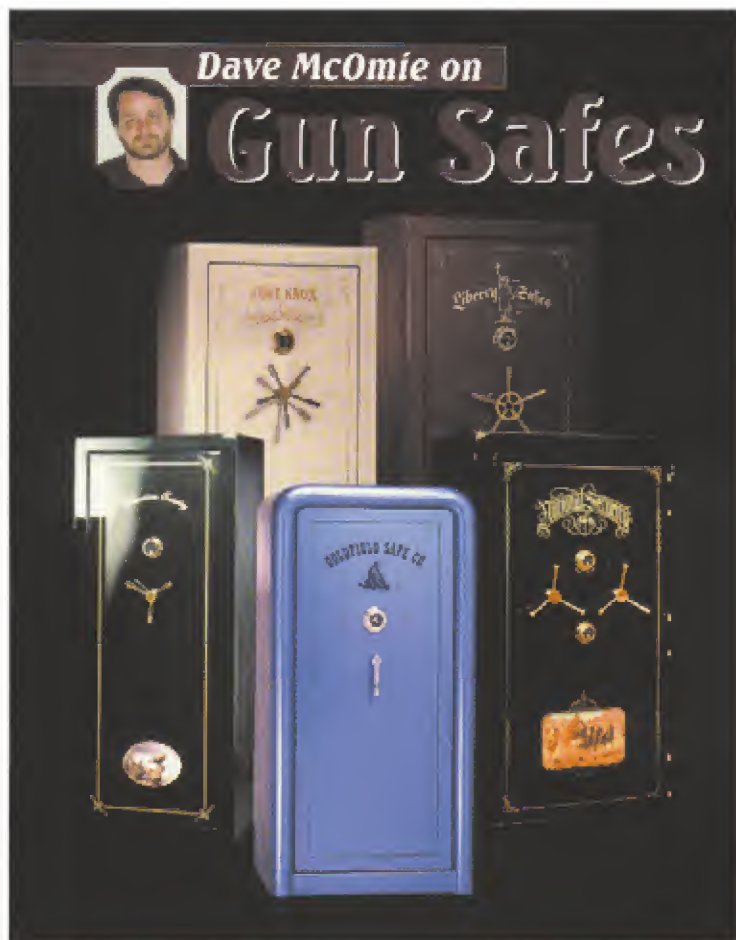
Here, under one cover you have a tremendous amount of lock servicing information. Next time you run into a problem chances are you'll find the answer in the Lock Repair Manual.

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#LRM - 1



# Gun Safes



Need a drill point or relocker drill point on a gun safe?

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#GS - 1

## Yamaha 7001-8000

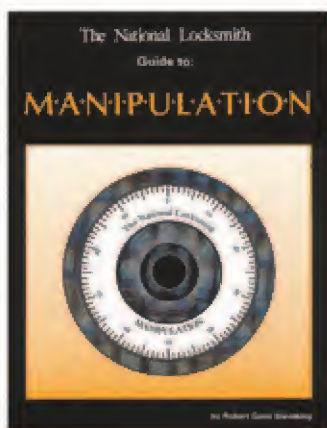
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TNL

## Manipulation Home Study Course



Our home study course guides you on step-by-step process, teaching you everything there is to know about manipulation.

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#MAN - 1

## 15 Minute Safe Opening



This book deals exclusively with round head lift out doors. Shows five ways to open a Major; three ways to find the Dog Pin on a Major; four ways to open a Star; four ways to open a LaGuard style round head.

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#JJ - 1



# OPENING THE 2000



by Tony Vigil



## FOCUS

Ford has introduced a new entry-level vehicle into the market called the Focus. (See *photograph 1.*) The Focus is reasonably priced and appears to be a very well made car for the money. This combination of low cost and high quality is not only going to make the Focus one of the more popular cars on the road for 2000, but may usher in a new crop of high quality economy cars from other manufacturers.

Several years ago Ford introduced the Contour and the Mercury Mystique, which were fitted with a revolutionary new cable linkage. While the cable linkage in the Focus is similar to the one in the Contour and Mystique, they are just different enough to require a completely different opening method. However, the mechanism on the Mercury Cougar door is very similar to the Focus, and the new tool developed by High Tech Tools to unlock the Focus also works very well on the Cougar.

In reality, the linkage on this vehicle is not a linkage at all, but in fact a cable, which runs from the latch mechanism to the door lock button. On models with electric door locks, the system is driven by an electric actuator. When you



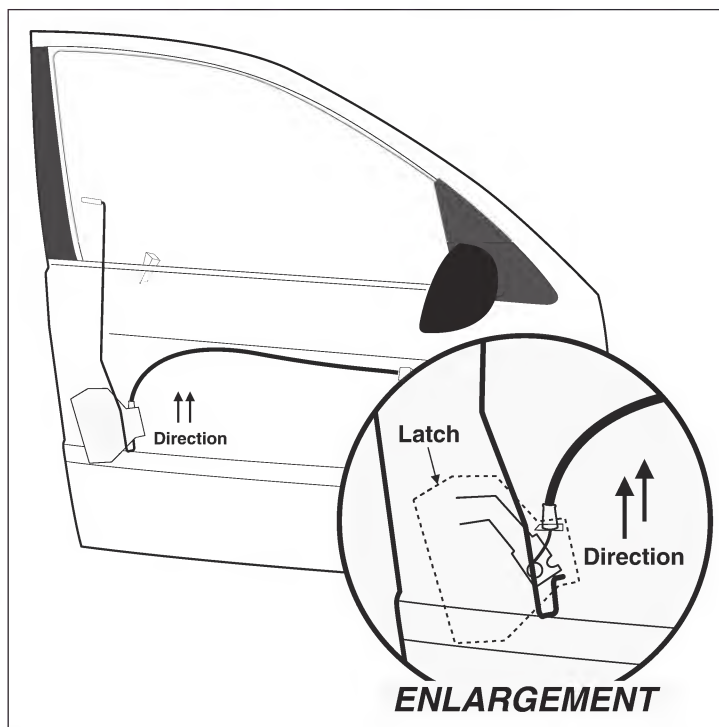
1. The new 2000 Ford Focus.

pull the door handle the electric actuator unlocks the door.

Because of this design there are no linkage rods to grab inside the door. (See *illustration A.*) The development of this and other lock systems in the industry demonstrate why the professional locksmith must continue to stay informed about the latest developments. This is a rapidly changing industry requiring you to maintain a current version of an auto opening system to stay on top of the changes.

It would be easy to assume that the Contour, Cougar and Focus all open the same way, as they are all Ford products and all have cable mechanisms. But the fact is they do not. Even the Cougar and the Focus which both are opened using the same tool, have different insertion positions for each respective vehicle.

Since the only thing available to grab in the Focus is the cable, standard opening tools are of no use here. However, upon close examination of the entire system, it becomes obvious that the latch mechanism in this car is completely exposed at the bottom. The cable attaches to a bell crank type lever, which if you can see it is quite easy to lift and unlock.



A. Because of this design there are no linkage rods to grab inside the door.





**2. Point the tip of the tool towards the front of the car.**

The problem of course is that you can't see the lever even with a probe light and you certainly can't reach it with conventional tools. The lever resides on the backside of the latch and while it is exposed, it is just tough to reach.

High Tech has a tool specifically designed for these vehicles. The tool is custom bent to fit the unique contours of the door and latch.



**3. Turn the tool handle away from the car and lift until it contacts the latch mechanism.**

The Focus can be unlocked with the High Tech Tools number 67 tool. As always, start by separating the weather stripping from the glass using a strip saver and wedge to create an opening for the tool.

As seen in *photograph 2*, point the tip of the tool towards the front of the car and lower the tool into the door directly above the door handle on the passenger side. Lower the tool

## Ask Dave

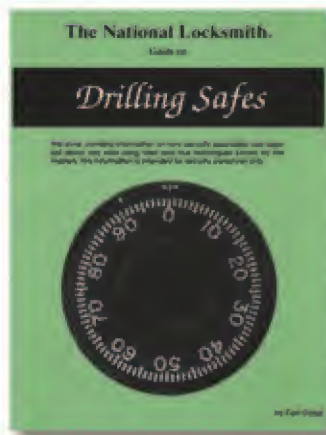


You asked.  
He answered.  
This is safe  
and vault  
Q&A with  
an attitude.

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#AD - 1

## Drilling Safes



One of the  
most expert  
safemen in the  
country, Carl  
Cloud has  
written a very  
important  
book on safe  
opening.

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#DS - 1





**4. It is easy to see the cable linkage system protected by a thick rubber cover.**

almost all the way into the door, below the latch. Then turn the tool handle away from the car and lift the tool until it makes contact with the latch mechanism at the bottom of the door. (See photograph 3.) The tip of the tool is designed to be just long enough to fit through the gap and short enough not to get caught up in the latch mechanism.

*Photograph 4*, gives you a good idea of what exactly is going on inside of the door. It is easy to see the cable linkage system, which is protected by a thick rubber cover. At the bottom of the cable lies a latch system, which connects the



**5. A look at the tool and latch.**

cable and the door lock button. The key to this opening is not the cable, but the latch itself, which operates similarly to a bell crank system. Lifting the tool firmly flips the latch to the unlock position, unlocking the door.

*Photograph 5*, provides a look at the tool and latch from under the cable linkage.

Opening the Focus can be very frustrating for the locksmith who is not familiar with cable lock systems, but is actually pretty easy for those who understand the way the lock system works. Now you know. **IRL**



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#GM - 2



***What do you think the outlook is for locksmiths?***

If the locksmith grabs the reins, there's no way to go but up. However, there must be more proactively, a more progressive attitude towards change and more education to increase the scope of activity. There are so many more products to be sold, and so many markets to sell. Just think about the new, big ticket mechanical and electrical/electronic access control devices that can be offered. Smart entry/egress cards, time lapse recorders, new strikes, alarm and CCTV monitoring systems, detection sensors. And, who's to say that the locksmith can't even supply fully integrated systems?

***Is the locksmith a key factor in your plans for the future?***

Yes. The locksmith is a cornerstone of our activities. We are locksmiths ourselves. We realize that as the locksmith goes, so do we, and as the locksmith grows, so do we. We will continue to try to contribute to their well being by providing the products, the promotional assistance and the fast response to orders or to questions that they deserve.

***What makes you stand out among other distributors?***

We are a niche distributor specializing in select brands of quality

# Face to Face with SECURITY LOCK DISTRIBUTORS



mechanical and electrical security products. Our commitment in inventory is second to none in this industry. We pride ourselves on the fact that if it is manufactured by one of the factories we represent, then we are confident that we will have it on our shelves. Security Lock Distributors has always maintained an

in depth parts program for customers heavily involved in service and repair contracts.

***Do you have technical experts on staff to assist locksmith clients?***

We offer the best team in the business. We have a two-department



**Tech group evaluates new product.**

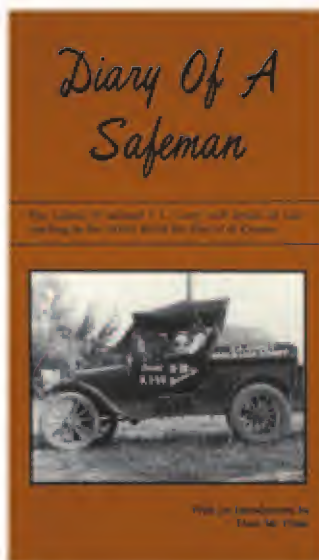


**Making certain products do what they are supposed to do.**

March 2000 • 143



## Diary Of A Safeman



This book is a real gem...the private safe diary of old time safecracker C.L. Corey.

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#DIARY



Schlage is piled high.

customer service group; one specializing in mechanical access control while the others specialty is in electronic security and system design.

### **Why types of product do you stock?**

We specialize in electronic / mechanical locking systems and have a strong commitment to the Ingersoll-Rand family of architectural hardware products. They consist of Schlage



They're not kidding when they say "In Depth Inventory."

Lock Company, LCN Door Closers, Ives, Glynn-Johnson, Locknetics Security Engineering and Von Duprin. We are a master distributor stocking all parts, finishes, voltages and switch options available from these I-R factories.

### **How would you describe your prices?**

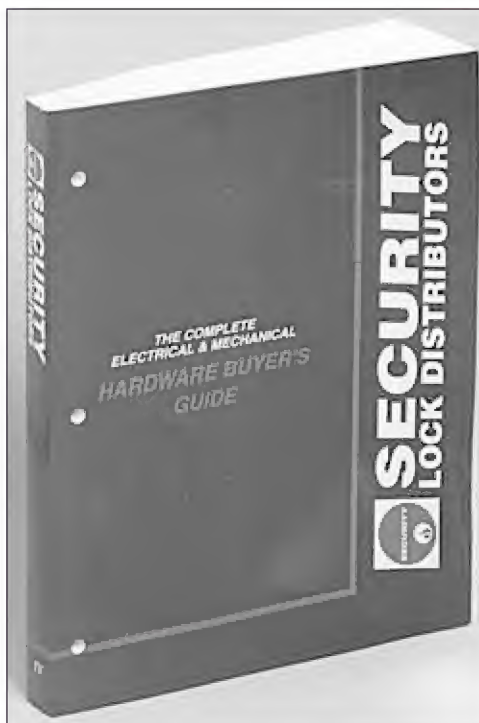
Our pricing is competitive; we feel that the value-added services we offer our customers make us a logical supplier.

### **Do you have an outside sales staff?**

No. Our catalog and extensive marketing program is the way we communicate with our customer base.

### **What is the background of the owners?**

The principals of Security Lock Distributors as well as most of the staff from warehousing to sales have come from the locksmithing industry.



530 page catalog.





Needham, MA location.

**What are your goals for your website?**

To become more interactive with our customers via the computer. We feel that the conventional 9-5 business is changing and we have to be able to offer our services around the clock to our customer base through our website.

**We hear you assist your locksmith clients to produce literature. Tell us more.**

We have available or can get any line art or photo ready graphics to help assist our customer if they want to produce a marketing piece.

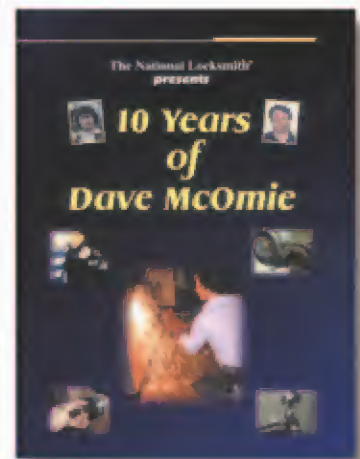
**Does your catalog include everything you stock and do you have Minimum orders?**

Yes, we do an extensive catalog mailing as well as many supplement pieces by manufacturers. As far as minimum orders go, we do not have any minimum purchasing requirements.

**Where are you located and how quickly do you ship?**

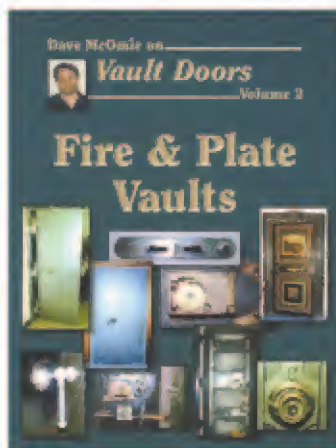
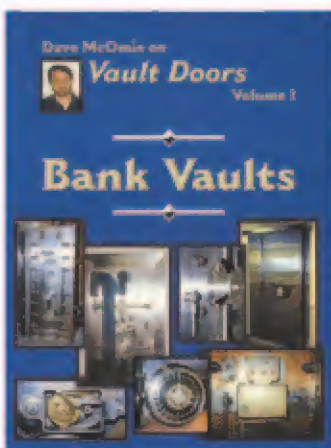
We have locations in Needham, Ma. that is a suburb of Boston, Pompano Beach, Fla., and Las Vegas, NV. We pride ourselves on shipping same day with a 98% percent order fill rate.

# 10 Years of Dave McOmie



Every single National Locksmith article by Dave McOmie from August 1986 through August 1996 under one cover!

## Dave McOmie on Vault Doors Vol. 1 & 2



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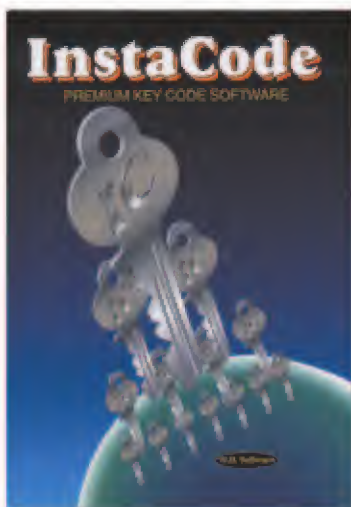
#VD - 1, VD - 2

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#DM - 10



## InstaCode



Your total code  
and code machine  
management program.

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#IC - 2001



Las Vegas, NV location.

***Do you have a newsletter or  
regular publication and if so,  
what does it cover?***

We have a newsletter we do  
quarterly that informs our customers  
base on what is new and available in  
the industry as well as informing them  
on what is going on in our company.

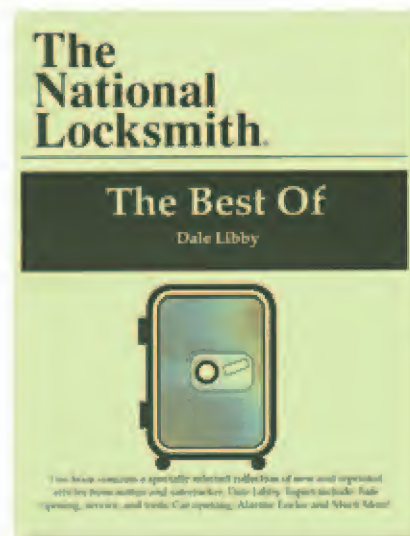


Pompano Beach, FL location.

*If you would like to receive the  
newsletter, a catalog or receive any  
other information on Security Lock  
Distributors, call: 800-847-5625; Fax:  
(617) 444-1155; e-mail:  
SECLOCK@IXNETCOM.COM.  
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TRL

## The Best of Dale Libby



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#DALE



**Taking  
Industry Products  
for a**

## TEST DRIVE!

Not just for the Real Estate market, security lock boxes (which you commonly see hanging from a knoblock) are being used more frequently by homeowners themselves. Designed primarily as a spare key storage device, the ease of use and convenience of secure outside storage make it an attractive package. Such devices have eliminated homeowner's fear of being locked out of their own home or worse yet, their children being locked out.

The days of slipping a spare key under a welcome mat or on the door header have long since passed. As most of us know, if it is not under lock and key today, it will soon be gone. For secure key storage you can use a hollowed camouflage rock, or you can use the ShurLok security lock box.

### SHURLOK FEATURES:

ShurLok has designed an all-metal key storage locking box that is convenient and easy to use. Operated by a simple four number combination, there are separate combinations that open the shackle and key compartment and the combination can be changed in seconds.

This is an ideal device to use for spare key use or when mom wants to leave a spare key available for little Johnny. Since separate combinations operate the shackle and key compartment, only one needs to be given for access. It is also ideal for maintenance, groundskeeper and maid service use, where a key can be left and the combination changed as often and when desired.

Up to 10,000 combinations can be set on the ShurLok and it is

## ShurLok. SECURITY LOCK BOX

changeable in seconds. The factory combination is 0-0-0-0 to open the shackle and 3-3-3-3 to open the sliding door for key storage.

The ShurLok combination wheels also have a zero (0) reference point. If all wheels are rolled in an upward direction they will stop at zero. This is a feature that is good to have when in the dark or for the visually impaired giving them a starting point by which to count from.

### COMBINATION CHANGING:

To change the combination set all combination wheels on the opening combination. On factory setting that would be 0-0-0-0.

Use a small screwdriver to turn the change button located above the sliding door. Turn the button clockwise 90-degrees or 1/4 turn.

Select your new combination and set the wheels accordingly.

Use the screwdriver to return the change button to the original position by turning counter-clockwise 1/4 turn.

The sliding door combination is automatically set when the new combination is set. Use the following chart to find the new combination for the sliding door.

Shackle: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9

Door: 3, 4, 5, 6, 7, 8, 9, 0, 1, 2

For example if the shackle combination is 7-5-2-4, the sliding door combination will be: 0-8-5-7.

### CONSTRUCTION:

The ShurLok is made of a durable all-metal construction with a plastic

shell. It is designed to be hung on any knoblock, but can also be used as any padlock to secure a number of items. The shackle is hardened to resist bolt cutters or hacksaws.

### PRICE:

The price of the ShurLok is \$24.95.

### CONCLUSION:

The ShurLok will provide adequate key storage security for most situations. If you are looking for absolute spare key security, this is not it. It will provide sufficient security for residential applications for those convenient or emergency spare key moments.

The padlock design allows the unit to also be used as a padlock to secure such items as a bicycle, spare tire, gates, sheds, lockers, and the like. It is not recommended for high levels of security requirements.

For more information on the ShurLok call: (206) 523-7665; Fax: (206) 523-9876; E-mail: [freeman@finns.org](mailto:freeman@finns.org). Or circle #288 on Rapid Reply. **TNL**



### IN SUMMARY:

**DESCRIPTION:** ShurLok an all-metal key storage locking box that is operated by a simple four number combination.

**PRICE:** \$24.95

**COMMENTS:** It is not recommended for high levels of security requirements.

**TEST DRIVE RESULTS:** The ShurLok will provide adequate key storage security for most situations.